JANUARY 21, 1952 NEWS ISSUE

Electrical World

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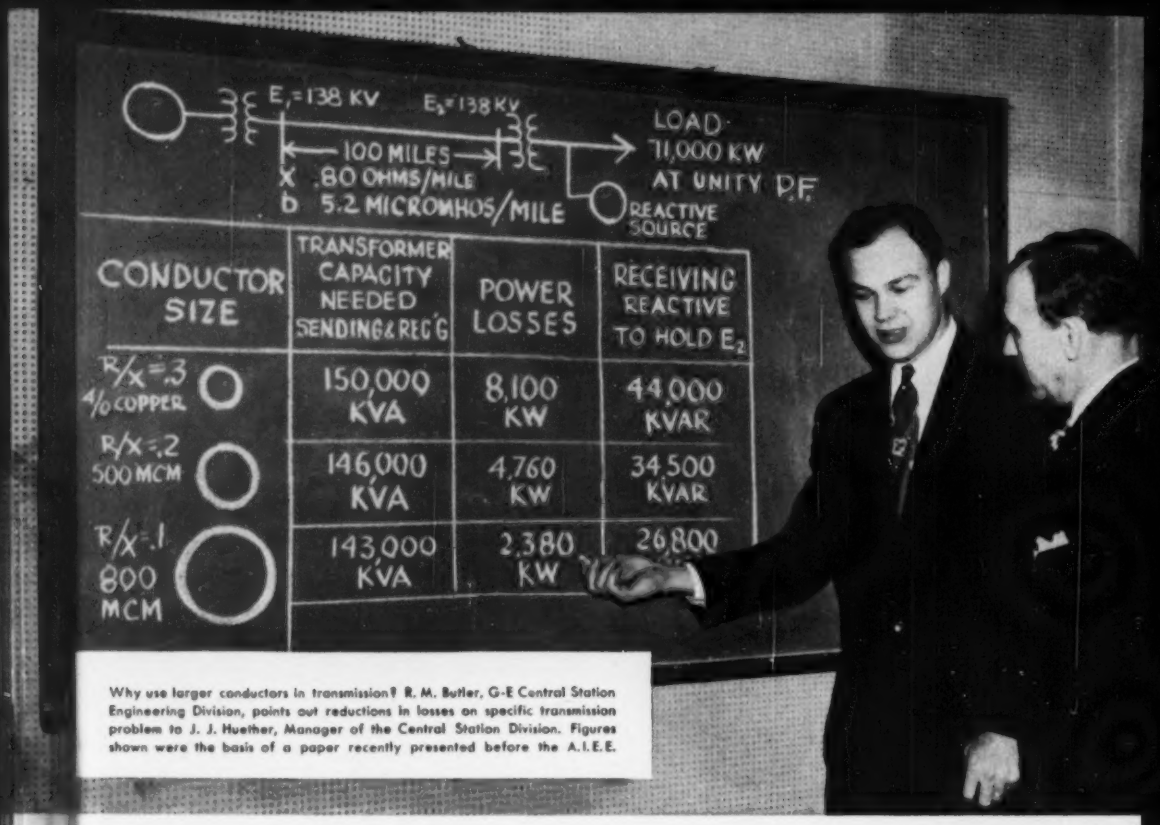
Dr. Charles F. Wagner, winner of AIEE's 1951 Edison Medal . . . Page 15

Promote Your Best, Check the Rest . . . Page 16
Another Good Year . . . Page 50



Why use larger conductors in transmission? R. M. Butler, G-E Central Station Engineering Division, points out reductions in losses on specific transmission problem to J. J. Huether, Manager of the Central Station Division. Figures shown were the basis of a paper recently presented before the A.I.E.E.

Don't overlook bigger transmission conductors in planning for future loads

Applications of large ACSR conductors are appraised by G-E sponsor engineers P. H. Light and C. A. Woodrow with R. C. Buell, Manager of the Sponsor Division—one phase of the Division's continuing interest in utility problems.

New thinking on conductor sizes promises greater capacity for expansion, reduced losses and lower kw-hr costs

Most of the conductors used on today's transmission lines are relatively small—about 4/0 copper at 110- to 138-kv levels. With growing demands requiring the transmission of larger and larger blocks of power, these lines tend to become bottlenecks to expansion. Why not plan with larger conductor sizes—particularly at new higher voltages—and provide for higher capacity at the start?

Bigger conductors than those in general use today will not only provide for heavier loadings per circuit, but may also reduce the cost of delivering energy. With their lower r/x ratios, larger conductors require substantially less reactive kva to support the receiving voltage. Transmission losses, of course, are also reduced. Because of lower losses and lower kvar requirements, significant additional savings can be made in transformer capacity.

Maybe now is the time to review future loads and established practices in the choice of conductor sizes. For a complete discussion of the subject, write for a copy of the paper GER-511: "Conductor Size—Its Importance in Transmission." General Electric Company, Schenectady 5, N. Y.

MORE POWER TO AMERICA

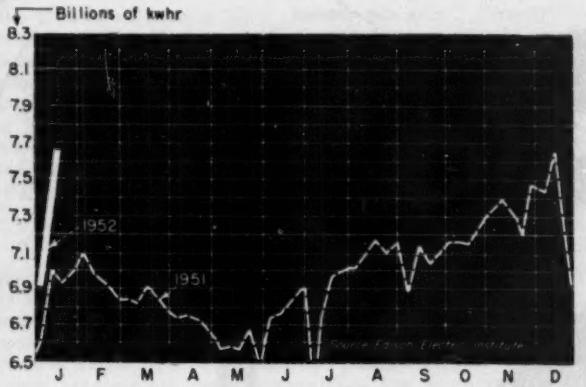
GENERAL ELECTRIC

101-180

VOLUME 137, NO. 3

January 21, 1952

Electrical World



Output Week Ended Jan. 12—7,665,643,000 Kwhr

Per Cent Change From Previous Year

	Total US	New Eng.	Mid Atlan.	Cent Ind.	West Cent.	South-east	South Cent.	Rocky Mount.	Pacific NW	Pacific SW
Jan. 12	+ 9.8	+6.4	+7.6	+7.2	+ 8.8	+11.5	+19.5	+10.6	+11.7	+13.5
Jan. 5	+ 8.3	+2.6	+6.1	+4.5	+ 7.6	+ 9.7	+19.7	+10.8	+12.5	+12.8
Dec. 29	+ 6.8	+1.0	+4.3	+3.5	+ 8.7	+ 7.6	+20.2	+11.8	.....	.....

Electric Power Statistics

		Latest Month	Preceding Month	Year Ago
Peak Load—Class I Utilities (Million Kw)	Oct.	63.37	62.09	57.34
Capacity (Million Kw)	Nov.	75.18	74.68	67.98
Production (Billion Kwhr)	Nov.	32.10	32.44	29.02
Hydro		8.08	7.55	7.67
Fuel		24.02	24.89	21.35
Sales (Billion Kwhr)	Sept.	27.54	27.45	24.75
Residential		6.82	6.50	5.84
Commercial		4.89	4.91	4.29
Industrial		13.62	13.83	12.66
Other		2.22	2.21	1.97
Fuel Consumption				
Coal (Million Tons)	Nov.	9.72	9.58	8.76
Oil (Million Barrels)		5.95	5.44	6.20
Gas (Billion Cu Ft)		53.70	72.00	47.76
Net Income Class A & B Utilities ($ Million)	Sept.	57.48	53.92	56.88
Dec.52 Peak Class I Utilities (Million Kw)*	Oct.	77.4	77.2	69.6
Kwhr per Residential Customer (12 Month Average)	Oct.	1,972	1,961	1,801
Revenue per Kwhr Residential Service (12 Month Average)	Oct.	2.83	2.83	2.90
Canadian Production (Billion Kwhr)	Oct.	4.92	4.40	4.39

Business Statistics

FRB Industrial Production Index†††	Dec.	216*	219*	216
Gross National Product ($ Billion)	3rd Qtr	81.7	79.1	72.4
EW 5 Industry Production Index	Dec.	124.0*	123.4*	120.3
ENR Construction Cost Index††	Jan.	114.8	114.8	111.3
BLS Consumer's Price Index	Nov.	188.6	187.4	176.4
NEMA Insulation Materials Sales Index†	Nov.	511	559	542
NEMA Electric Appliances Sales Index (Unadjusted)†	Nov.	269	305	367
NEMA Household Refrig. Sales Index†	Nov.	87.7	113	228

* Estimated † 1936 = 100 †† 1949 = 100 ††† 1937-39 = 100 (Unadjusted)

THIS WEEK

The Electrical Week	5
In the Industry	6
Technical Notes	6
News About People	29
Sales and Service	38
Financial	43
Manufacturers and Markets	48
Electrical Business Outlook	50

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Do nationally accepted standards for size, strength, and electrical performance put the basic quality of all station insulators on a par? If this is true, they would all last about the same length of time, and your own experience tells you they don't!

Standards apply to the "as manufactured" condition. They relate to the *first day* of an insulator's life, while what you actually got for your dollar is not measured until the *last day*. The better the insulator, the farther these days are apart.

So far, thousands of O-B station insulators have put close to 35 years behind their first day. They are still giving satisfactory service with no hint of the last day's ultimate arrival. This performance *isn't* "standard" and can't be specified--except by putting "O-B" on your station insulator orders.

Ohio Brass

MANSFIELD OHIO, U. S. A.

4

THE ELECTRICAL WEEK

Featured in this issue

Industry gets over the December peak with less difficulty than it expected (p 7) . . . **Utilities gain** in battle for 2nd quarter allotments (p 9) . . . **Dr Charles F. Wagner** wins 1951 Edison Medal (p 15) . . . **Industry puts on** a (scientific) display of power (p 16) . . . **Management inventory** works well for Detroit Edison (p 22) . . . **Alcan Project** in British Columbia will have first underground plant in North America (p 32) . . . **SEC decides** on jurisdiction over sale of Washington Water Power properties, but delays announcing its decision (p 43) . . . **Defense spending,** on the increase, will make 1952 another good year for business (p 50).

• • •

Washington—Army Corps of Engineers is allotting nearly $4 million for planning 32 waterway projects, many with hydroelectric features, in 20 states . . . REA has approved a $1.7 million loan to Blue Ridge Electric Co-op of Lenoir, N. C., for headquarters facilities and system improvements, including engineering fees relating to construction of 92 miles of 44 kv transmisison line . . . Second quarter minor requirement allotments along with advance allotments for succeeding quarters have been mailed out by DPA.

Pacific Gas & Electric is studying higher voltages, particularly 440-kv, for transmitting power in northern California. This is a coming problem, as lack of water and fuel transportation problems are barring new plants in the interior valleys. So far costs of terminal equipment at higher voltages are a serious deterrent.

Makers of steam power generating equipment asked at a recent meeting between Office of Price Administration officials and members of the Equipment Makers Industry Advisory Committee that they be allowed to price their installation and erection services under the construction ceiling price regulation (CPR 93).

Public utility executive program, offered for the first time last summer by the University of Michigan's School of Business Administration, will be repeated July 7 to Aug. 2. The class will be limited to 60 members. A bulletin describing the program and application forms will be distributed to companies about Feb. 1, EEI reports.

Narragansett Electric's meter readers have worked 908,424 man-hours without a lost-time accident. Can any other company top this?

Only 28,000 engineering students will graduate in 1952 to meet the current demand of from 60,000 to 90,000 engineers, American Society for Engineering Education reports. There were 38,000 engineering graduates in 1951; consequently the supply of engineers this year will be 10,000 fewer, a reduction of more than 25%. Since many of the 1952 graduates are either members of ROTC units or are subject to the draft, having been granted deferments to complete their college courses, defense industry is likely to find itself with a deficit of from 40,000 to 70,000 engineers.

Monrovia, Calif. City Council grants an indeterminate franchise to Southern California Edison Co.

World Bank has agreed to lend Mexico $29.7 million for the development of electric power.

Illinois Commerce Commission approves 10-year street lighting contracts between Central Illinois PS and Bowen, Chatsworth, Dahlgren, and West Union. ICC also approves a new street lighting contract between Central Illinois E & G and McLean.

New York section of AIEE is sponsoring Donald A. Quarles, vice president, staff department of Bell Telephone Laboratories, New York City, as AIEE president for 1952-1953. Pittsburgh Section has endorsed A. C. Monteith, vice president of Westinghouse Electric Corp for 1953-1954 (not 1952-1953 as reported in EW, Jan. 14, p 73).

Inauguration of service at New England Electric System's new Salem Harbor steam plant with a first unit of 75,000 kw shuts down Beverly Gas & Electric's nearby 1,500-kw reserve station built in 1910.

U. S. Fish & Wildlife Service, one of several conservation groups that opposed construction of hydro dams on the Cowlitz River in western Washington, has assured the City of Tacoma it will "zealously cooperate" in the design of fish handling installations at two Cowlitz dams for which the city recently received FPC approval. Meanwhile, Tacoma City Council approves unanimously an ordinance that will allow an early start on city's $146 million dam.

Secretary of the Interior Oscar L. Chapman has approved the Bureau of Reclamation's "four foot rule" which limits peak power production at Grand Coulee Dam, the bureau reveals at its regional office at Boise. Chapman's action upholds the bureau in an issue raised by Depa. In an effort to get more power production for the Pacific Northwest, Depa several weeks ago asked the bureau to consider relaxing its regulation. Because of the danger from earth slides below the dam, Reclamation Commissioner Michael W. Straus held that relaxation "would involve a serious risk."

Congratulations—Pennsylvania Power & Light Co promotes Merle S. Lawrence from secretary of the company to vice president of its Luzerne Division, succeeding F. C. Mueller, vice president, who will head the Schuylkill Division when Vice Pres. C. B. Lawson retires on Feb. 1 . . . Bell Telephone laboratories names Dr Ralph Bown vice president in charge of research.

THE ELECTRICAL WEEK

CONTINUED

Electric companies now receive priority consideration when applying for certificates of necessity for accelerated tax amortization.

Decentralization of General Electric Co's Transformer and Allied Product Department, Pittsfield, Mass., has resulted in establishment of three new business operations: Power Transformer, Distribution Transformer, and Capacitor Departments. Fourth offshoot of the change is a Laboratories-Engineering Department.

Securities and Exchange Commission has authorized Washington Water Power Co to borrow an additional $40 million to help finance its construction program.

David J. Guy, natural resources expert, has been elected executive vice president of the American Watershed Council.

Atomic energy may be used to supplement conventional power sources in the next decade or so, AEC predicts.

Even before the Joint Committee on Defense Production released its power study (p 10), farm-state lawmakers began dragging their feet on the proposal for year-round daylight saving.

Donald C. Cook, vice chairman of SEC and one-time member of its utilities division, is expected to be nominated soon to head the commission.

Snow piled 16 ft deep on Pacific Gas & Electric Co's sheds in the Sierras. Company pulled hydro reservoirs as fast as possible to handle possible floods, but the lower head cut power output 1 million kwhr last week.

Corps of Engineers has new plan for redevelopment of Niagara Falls that calls for open canals instead of tunnels to carry water from Conners Island to plant at Lewiston. Estimated cost of $288 million does not include $60 million lower Niagara portion of 1,132,000-kw project.

IN THE INDUSTRY

"Like the Rich People" may not be the greatest motion picture ever made. It may not be spectacular, colossal, or gigantic. It is not in technicolor. But it is one picture that will make history in the industry. And it is well above average in interest and appeal.

What makes this picture so important is its sponsorship. This is the first movie for television made by the Electric Companies Advertising Program. It will kick off ECAP's 13-week schedule of telecasts. A total of 34 stations in cities served by member companies will show the picture during the week of Jan. 27. Ten of the stations will carry the half-hour show on Sunday evening. The other 24 will present it on other evenings of the week. Practically all of the telecasts will come between 6 and 11 p. m.

"Like the Rich People" isn't propaganda. It is good entertainment. A social comedy in type, it approaches the "soap opera" in theme. Produced in Hollywood by professional actors, it is far superior in quality to the usual TV bill of fare.

The plot concerns "a boy and a girl" from New York who are taken into their "dream" house at Bear Mountain following a motorcycle accident. There they find that wealth does not necessarily mean happiness. A friendly doctor keeps them there long enough to reunite the wealthy couple who have reached the "Reno" stage.

The commercials are equally well done. One of these is a dramatization of ECAP's most successful publication advertisement of which thousands of reprints were distributed. This ad played up the four symbols of freedom: the Bible; the door key; the pencil, symbolizing free speech; and the ballot.

The sponsoring companies should not lose any opportunities to promote this show. It might be well to start the promotion with their own employees. TV is fast supplanting radio as the most popular medium of communication and entertainment. So it seems logical that this step should be but the starter. The industry must use TV more and more to tell its story to the voter, the taxpayer, the customer, and their children.

TECHNICAL NOTES

ARCHER E. KNOWLTON

Submarine-type cable is generally superior structurally, chemically and electrically to other forms; these attributes warrant consideration wherever "heaving" of the soil is anticipated.

Use of unit-type substations may be restricted unless the noise problem is solved either by the transformer manufacturer or the barrier-building utility.

Basic impulse insulation levels are being studied in connection particularly with switch and bus insulators toward better correlation with the low frequency dry and wet withstand voltages.

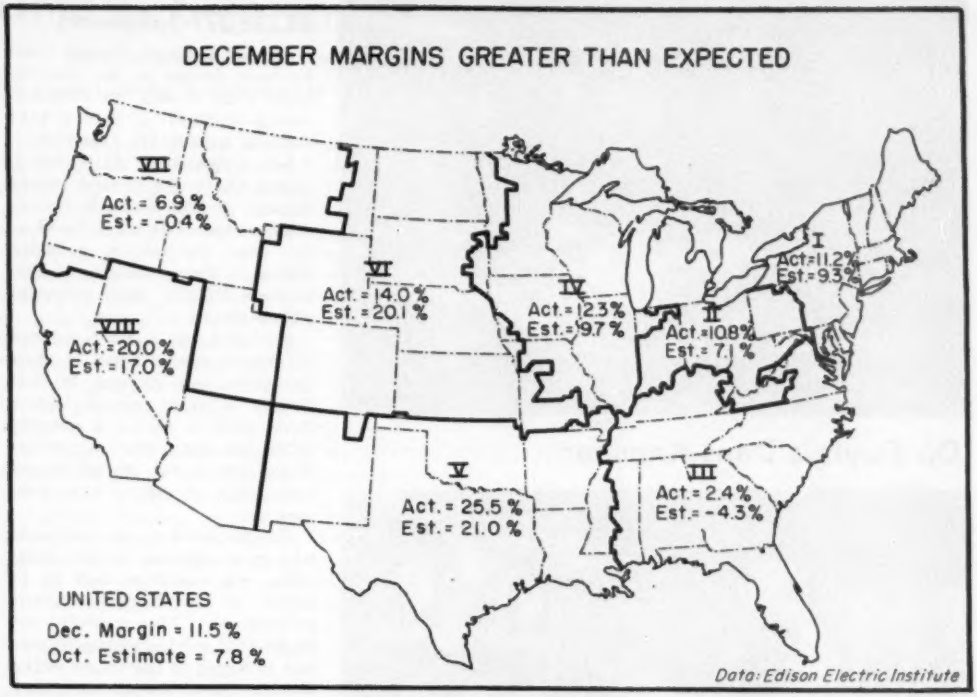
Loudspeakers at the operating locations give a dispatcher means to pass instructions rapidly to the station operators while he is kept busy at the telephone during a system disturbance.

Successes in accident prevention are difficult to count and tabulate; it is easy to count the failures.

Grounded neutrals and hardware are harmless to touch but not when carelessness results in a simultaneous contact with an energized part.

Linemen generally do not understand circuits well enough to realize their bodies should never be part of an electric circuit.

Fatality results from one in every six cases of electric shock or burn. Prompt resuscitation could save several of the now fatal cases, especially if capable of stopping fibrillation.



MAP of Federal Power Commission regions shows graphically just how various regions got by the peak load season. Region V, the South Central area, had the largest margin in December mainly because it is the one area which has its peak season during the hot summer months

Industry Easily Handles '51 Peak

December load estimates were high, EEI survey shows; actual margin between top demand and capability was 11.5%

The industry got by its peak month of 1951, December, with greater ease than expected. Data collected by Edison Electric Institute reveal that the margin between peak load and installed capability was 11.5%. In October the industry had estimated that December margin would be only 7.8%.

It was less demand instead of greater capability, EEI said, that was responsible for the increased spread. The institute has given four reasons for the industry's stronger position:

1. Defense loads, which according to Washington sources are increasing, did not materialize in December to the extent expected.

2. To some extent industrial production for civilian purposes fell off and otherwise showed disruption.

3. Some diversity in peak demands appeared in various regions—a condition that cannot be foreseen accurately.

4. The October estimate was predicated upon median hydro conditions. Instead in sections where hydro facilities supply a high percentage of the output, water conditions were excellent. This meant that there was no need to curtail power to industrial users. In fact there was no curtailment of power anywhere except for minor suspension of interruptible load in accordance with the customary procedure in peak load periods.

Region V, which has its peak period in summer, led all other regions with a healthy margin of 25.5%. The smallest margin was in Region III: it showed only 2.4%. The October estimate there was a deficit of 4.3%.

Peak loads were 9.4% higher in December 1951 than 12 months before. The October 1951 estimate was 12.8%. Greatest increase was in Region V, which was 16.9% higher. Lowest was in Region IV, 5.1%.

Central station production in December was also at a record high. Estimated generation for the month was 33,500,000,000 kwhr. This topped the 32,441,000,000 kwhr reported for October 1951. Contributing to December's total was the output of three record weeks. That for the week ended Dec. 22, a total of 7,823,731,000 kwhr, is still the record high. There is a slight possibility that this mark will be topped this month before the seasonal decline begins.

Though the past year set a record for output, it did not come close to 1950 as a record maker. In that year 19 record weeks boosted output by 1 billion kwhr in 49 weeks.

'De Duyfels Dans Kammer' . . .

. . . Contains a Central Hudson Plant

Twenty-six months and 29 days after ground was broken, Central Hudson Gas & Electric Corp dedicated its 60,000-kw Danskammer Point Plant on the west bank of the Hudson River six miles north of Newburgh, N. Y.

Tradition has it that as Henry Hudson's "Half Moon" sailed up the river in 1609, the crew saw Indians dancing and shouting on a huge flat rock jutting into the water. So frightful was the spectacle that the men exclaimed, "De Duyfels Dans Kammer!"—the Devil's Dance Chamber!

The plant now occupying the point (top picture) turns out 1 kwhr on less than 0.8 lb of coal. It's reheat turbine-generator will operate at 3,600 rpm, 1650 psig and 1000/1000 F. Building volume is 22.5 cu ft for each kw of maximum turbine capability.

Control operators and shift supervisor (lower picture) are shown at the mechanical benchboard in central control room. Instrument markings respond to black light.

A second 60,000-kw unit, ground for which will be broken this summer, is expected to go on the line in 1954.

Danskammer Point is the western terminus of the first high voltage submarine pipe cable in the country, which the company laid under the Hudson in 1948 (EW, Dec. 18, 1948, p 79).

Iowa Utility Awarded $2,258,277 Judgments

Appanoose County District Court has been directed by the Iowa Supreme Court to enter two judgments totaling $2,258,277 in favor of Iowa Southern Utilities Co. Centerville.

One judgment of $2,211,549 is against George M. Bechtel, retired financier, his son, Harold R. Bechtel, and the estate of the late J. Ross Lee. The other, for $46,728, is against Edward L. Shutts, president of Iowa Southern Utilities. Both judgments include interest.

The court said it had found that the sum it ordered Shutts to repay the utility was received by him through a secret payroll system. Shutts plans to ask for a rehearing of the case. His position as president of the firm is not affected by the court action, an official of the company said.

The case, which did not involve the solvency or operating stability of the utility, was started in 1943 by 14 holders of Iowa Southern Utilities preferred stock. They contended that the Bechtels and Lee improperly profited by buying up utilities and selling them to Iowa Southern at higher prices at a time when they were directors or officials of the utility before its reorganization in 1938.

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Palmer Named to Head Anti-Bias Labor Unit

Dwight R. G. Palmer, chairman of the board of General Cable Corp, has been appointed chairman of the Committee on Government Contract Compliance by President Truman. The group will police the enforcement of federal contract clauses barring racial or religious discrimination in employment.

Other members of the committee are James B. Carey, secretary-treasurer of Congress of Industrial Organizations; Dowal H. Davis, general manager of the "Kansas City (Mo.) Call"; Oliver W. Hill, attorney; and George Meany, secretary-treasurer of American Federation of Labor.

The Departments of Defense and Labor, Atomic Energy Commission, General Services Administration, and Defense Materials Procurement Agency also will appoint representatives to serve on the presidential committee.

Utilities Gain on Allotments

Material allocators are beginning to appreciate needs of the power industry in carrying out its expansion program

General rises in the level of controlled material allotments for the second quarter indicate the electric power expansion program is on the way to licking one of its toughest mobilization problems.

That problem is to convince the material pie-slicers of the need for providing sufficient steel, copper, and aluminum to keep the program on schedule. Already precious time has been lost, along with at least 600,000 kw of generating capacity during 1951.

But the men in Washington fighting for materials for the power program now believe at least one dangerous turn has been rounded. They believe the material allocators now have an appreciation of industry problems, and the long lead time required to build power plants.

Conclusions Summed Up . . . This point of view was expressed in a recent letter written by Edward Morehouse, chief author of the Morehouse Report (EW, Jan. 14, p 76), to Ralph S. Trigg, deputy administrator of Defense Production Administration. The letter sought to sum up conclusions reached at a December conference of top electric power officials in the mobilization agencies. It reads in part:

"DPA policy for first quarter allotments provided for virtually full capacity production of turbines; at the same time, DPA allotments to Defense Electric Power Administration provided for enough field work to match such a turbine schedule. If DPA policy continues along the same lines in ensuing quarters, then according to Depa and the National Production Authority Engine and Turbine Division, the 1952-53 schedules . . . can be regarded as firm insofar as allotments are concerned."

Of course this assumes that sufficient material would be provided for transmission facilities in the second and third quarters necessary to compensate for those deferred in preceding quarters to promote the generation program.

Procurement Problem . . . With the allotments problem partially taken care of, utilities and equipment manufacturers should have more energy to help battle the procurement problem. That is the problem of cashing allotments once they are in hand.

There is no accurate count as to how many of the fourth quarter allotments went begging because it was impossible to place orders. At one point, Depa guessed that at least 10% of the allotment tickets for structural steel would not be cashable in the fourth quarter.

Part of the trouble was that DPA was deliberately over-alloting controlled metals on the theory there would be some attrition by plan changes and other causes. But this attrition failed to show up, and DPA had to admit more tickets were out than material was available.

CMP METALS FOR POWER AGENCIES
Requests and Allotments for 2nd Quarter 1952

Metal	2nd Quarter Allotment	2nd Quarter Requests	1st Quarter 1952 Original Allotment
Defense Electric Power Administration			
Steel (tons)	339,650	440,998	309,550
Copper (lb)	62,009,000	91,921,000	79,050,000
Aluminum (lb)	58,212,000	72,370,000	39,000,000
Electrical Equipment Division of NPA			
Steel (tons)	655,261	763,872	586,710
Copper (lb)	164,695,000	210,036,000	147,169,000
Aluminum (lb)	31,382,000	43,098,000	24,250,000
Engine and Turbine Division of NPA			
Steel (tons)	588,330	822,908	580,500
Copper (lb)	30,893,000	34,389,000	29,930,000
Aluminum (lb)	3,299,000	3,564,000	3,900,000

For the second quarter, DPA has sought to lick this by cutting down the percentage of over-allotment to 5% on most scarce metals. In previous quarters, the over-allotment had ranged from 12 to 20% of known supply.

Other problems are still in the way of a smooth running power expansion program in the mobilization economy. Equipment slippages over the past months have piled up schedules which look almost impossible to meet, no matter how much component material is available. For instance if manufacturers are to produce enough boilers to meet 1952-in-service schedules, they will have to ship as much new steam capacity in the first quarter of this year as they did in the last three quarters of last year.

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Copper Allocators Plan to Cut Supply Estimate

No matter who turns out to be right about the long-run copper outlook, there's bad news for the months immediately ahead.

While industry sources insist the supply will ease by the end of the year, metal allocators are preparing a cut-back in their supply estimates for later in the year.

If the allocators are right, it will mean less wire and brass mill products in the third and fourth quarters than previously expected. It will mean going back to about the 1951 level, instead of cashing in on an expected increase.

A few weeks ago, National Production Authority hoped supplies would now be running about 125,000 tons a month. But January is not expected to top 118,000 tons, and the February outlook is being revised to 110,000 tons or less.

Metal allocators have been changing their copper supply estimates on almost a month-to-month basis. First, they forecast a supply about equal to 1951. They raised this substantially after a meeting with U. S. producers; now they expect to cut back to about their original figures.

One reason is that a U. S. project which was expected to produce 2,000 tons in the first quarter and 4,000 tons in the second quarter has met delays. Another is that promises of additional copper ore from Canadian producers haven't resulted in any shipments.

Senator Maybank and his Joint Committee on Defense Production recommended eight steps to implement nation's power program . . .

1. Director of the Office of Defense Mobilization should give serious consideration to establishment of an Office of Electrical Power. Such office would have adequate delegated authority to arrange prompt delivery of all component parts of an electric power plant when, and as needed, once construction of the plant has received proper approval.

2. Such an office should be vested with sufficient authority to issue overriding directives or take less stringent action as may be necessary to see that allocation tickets issued for the electric power program are promptly honored.

3. If after considering the recommendations of the Morehouse committee (EW, Jan. 14, p 76), the Defense Production Administrator and the Director of the Office of Defense Mobilization are convinced of the need for increased expansion of electric power productive capacity, it is imperative that they take immediate action needed to bring that increased capacity into being on time.

4. Congress should give thorough consideration to the advisability of adopting a national plan of daylight saving time. Research indicates that invoking such a plan would have the effect of reducing the peak demand for electric power, especially in the northeast. With lower peaks, fewer new plants would be needed.

5. The Atomic Energy Commission should give attention to the possibility of adding controlled atomic fission to the sources of energy available for industrial uses.

6. Proper Congressional committees and executive agencies should give attention to hydroelectric projects which would help prevent power deficiencies.

7. It is necessary in the interest of a well-rounded adequacy of electric power that due consideration be given by appropriate authorities to complementing hydroelectric with thermal plants. If this policy is carried out, the base of firm power available for defense needs can be raised.

8. Maximum interconnection of power systems is advocated where this will result in a practical medium for making electric power produced by one system available in an area served by another power system. These interconnections are now in fairly wide use. It is recommended that the Federal Power Commission and the proper Congressional committees explore the possibility of the granting of more exemptions from federal jurisdiction for such interconnections.

'Watchdog' Group Reports on Power

Organizational and policy changes in the mobilization agencies to implement the electric power expansion program have been recommended by the Joint Congressional Committee on Defense Production (see box).

Coming close on the heels of the Morehouse Committee report (EW, Jan. 14, p 76), the Congressional committee recommendations supplements the earlier study.

Titled "Electric Power Study", the Congressional committee report suggests changes which can be made at legislative or executive department level. It praised the cooperation between various segments of the industry and the government's mobilization agencies.

No attempt was made to assess the power supply and demand picture in the study. But it was assumed by the committee that a definite program would be set up by Defense Production Administration following a thorough study of the Morehouse recommendations.

Reports Included . . . Attached to the study were reports and letters from Edison Electric Institute, Defense Electric Power Administration, DPA, and other mobilization agencies. The study also made extensive use of letters from a number of state regulatory commissions, some utilities and electric power organizations.

From a practical standpoint, the committee study comes about as near as possible to a Congressional directive. The recommendations will have to be dealt with directly by mobilization officials, and reasons will be demanded for any failure to follow them.

Reason for the weight carried by the study is that it comes from the so-called "watchdog" committee on defense production. Made up of ranking members of the House and Senate Banking and Currency Committees, this group of lawmakers probably carries enough weight to obtain the full backing of Congress if it is ever needed.

The "Watchdog" committee is charged with keeping a close eye on the functioning of the mobilization effort with a view to ironing out the kinks as they develop. In the past, amendments have been made to the Defense Production Act as a result of findings by this committee.

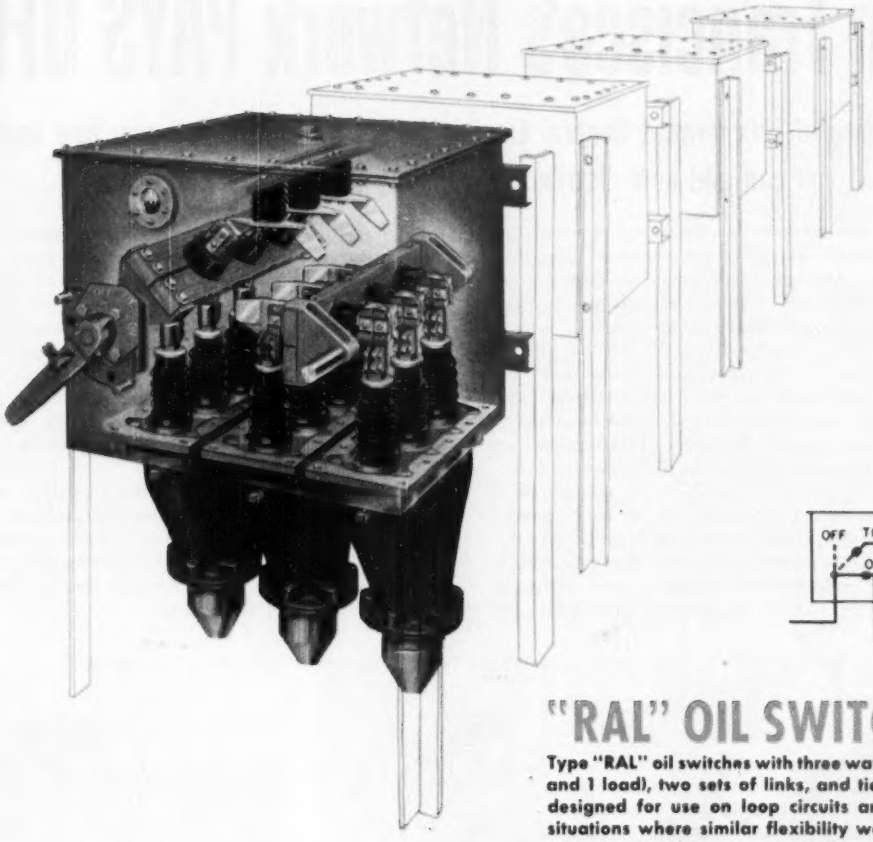
Main Problems . . . Three main problems dominate the field in considering the adequacy of the electric power supply, the study found:

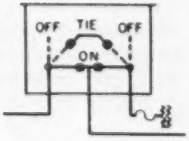
1. Widespread difficulties are being encountered in having allocation tickets honored.

2. Because of differences of opinion concerning the size of the expansion program required in this field, doubts are expressed as to whether sufficient allocations of materials are being made for increasing electric power production capacity.

3. Long lead times required for planning and constructing power plants are not fully understood by some defense planners.

PROVIDE SAFE SECTIONALIZATION FOR CABLE SYSTEM FLEXIBILITY WITH G & W LOAD BREAK OIL SWITCHES





"RAL" OIL SWITCHES

Type "RAL" oil switches with three ways (2 feeder and 1 load), two sets of links, and tie buses are designed for use on loop circuits and in other situations where similar flexibility would otherwise require three separate oil switches with correspondingly greater expense for equipment, installation, and space.

These oil switches materially reduce the length of time required for restoring service in case of trouble, or for isolating a circuit to make changes. Load break disconnection of a circuit is accomplished by manually operating an external lever —without opening the tank or breaking the oil and moisture seals.

Bulletin DB51 gives complete data and prices. Write for your copy or ask your representative.

G & W "Forethought" DB-20 shows how "RAL" switches are combined with power fuses. Send for your copy, there is no obligation.

G & W ELECTRIC SPECIALTY CO.

7780 Dante Avenue, Chicago 19, Illinois

Cable Terminating, Connecting and Sectionalizing Devices

Representatives in principal cities of U. S. A.

In Canada—Powerlite Devices, Ltd., Toronto and Montreal

THE LOAD GROWS AND San Francisco's Network PAYS OFF

Installation of this newest General Electric Network unit shows again how easily you can add new distribution capacity if you have a network

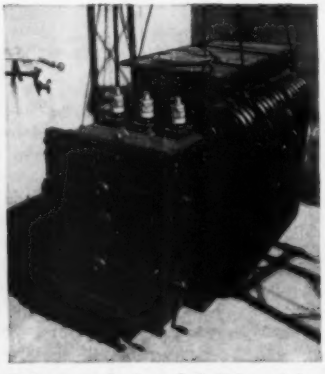
For more than 20 years downtown San Francisco has enjoyed the advantages of its secondary network—virtually uninterrupted service and uniformly good voltage. And Pacific Gas and Electric has profited from the complete flexibility for meeting load growth—on an orderly, step-by-step basis—without any rearrangement of secondaries or service entrances.

The installation of this 500-kva G-E network unit demonstrates a network's flexibility and economy for meeting load growth problems. When additional capacity was needed to meet the rising load in downtown San Francisco, P G & E simply constructed a transformer vault midway between two existing units and extended a primary feeder two blocks. Since the secondary cable passed by the vault site, connections were easily made and the new transformer was ready to pick up its share of the network load. That's all there was to it. Little or no additional secondary copper was needed! And rearrangements were unnecessary because the low-voltage grid, *not* the individual transformer, feeds the load.

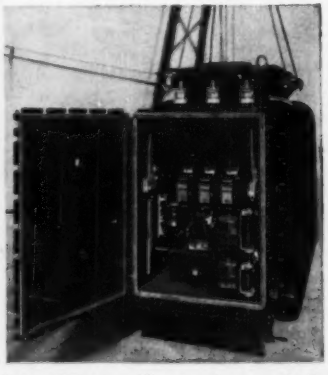
When you investigate the flexibility and economy of networks, be sure to consider the extra advantages of G-E standardized network equipment. Repetitive manufacture of standardized units means faster delivery at lower price. Refinement of design—made possible by quantity production—lowers installation and maintenance costs.

With application experience dating back to the inception of networks, General Electric can help you with all your network problems. For further information, see your G-E representative, or write for Bulletins GEA-5024 and GEA-2017D, General Electric Company, Schenectady 5, New York.

Faster delivery—lower price: G-E Standardized Network Equipment eliminates special engineering and drafting—simplifies purchasing. Quantity production methods reduce manufacturing and assembly time. You get faster delivery at lower prices.



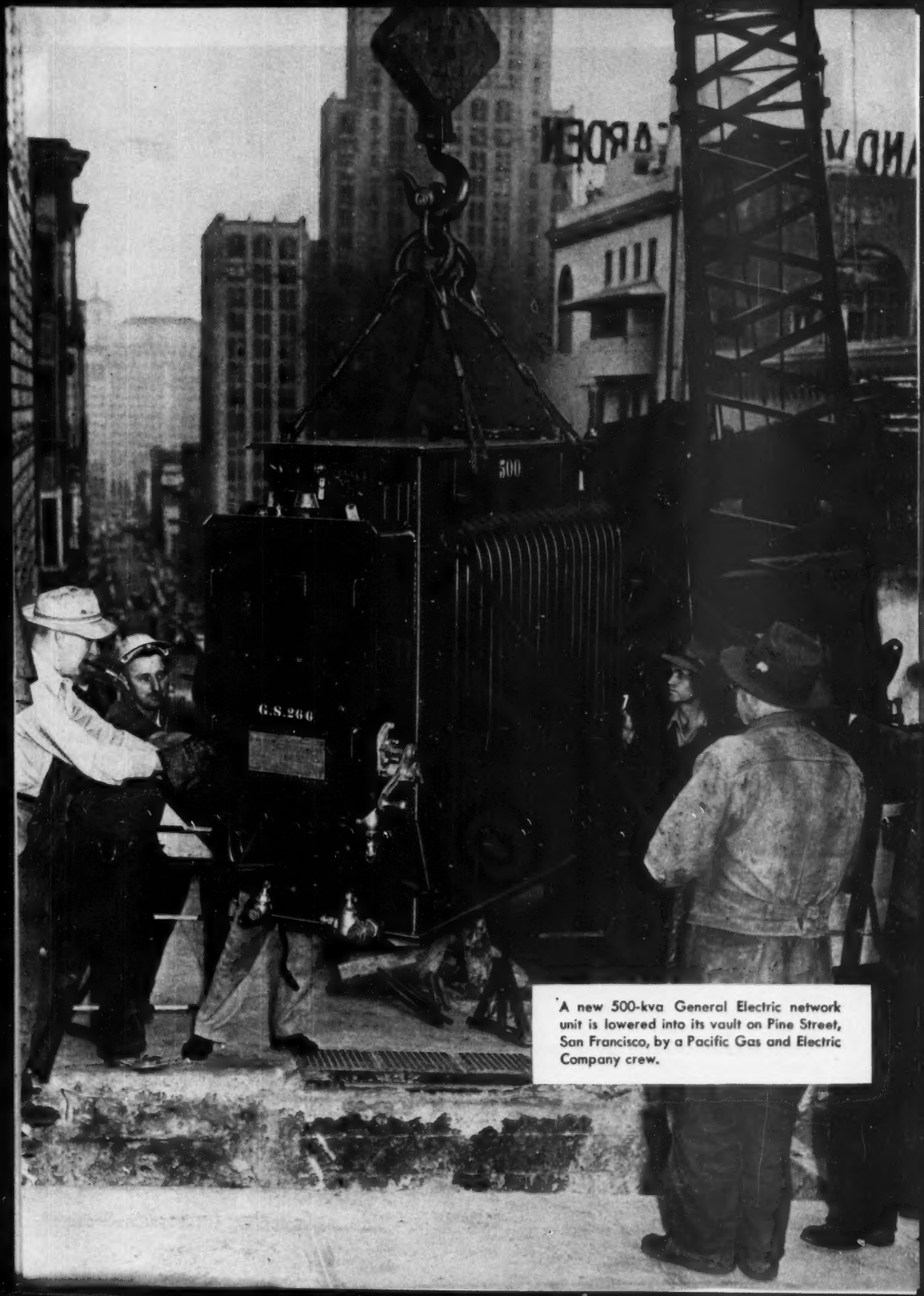
Minimum vault sizes: Both high- and low-voltage cable terminals are well below top of transformer, permitting vault depth of 7 ft. to roof slab. With servicing done from the two ends, vault can be of minimum size for lower installation costs.



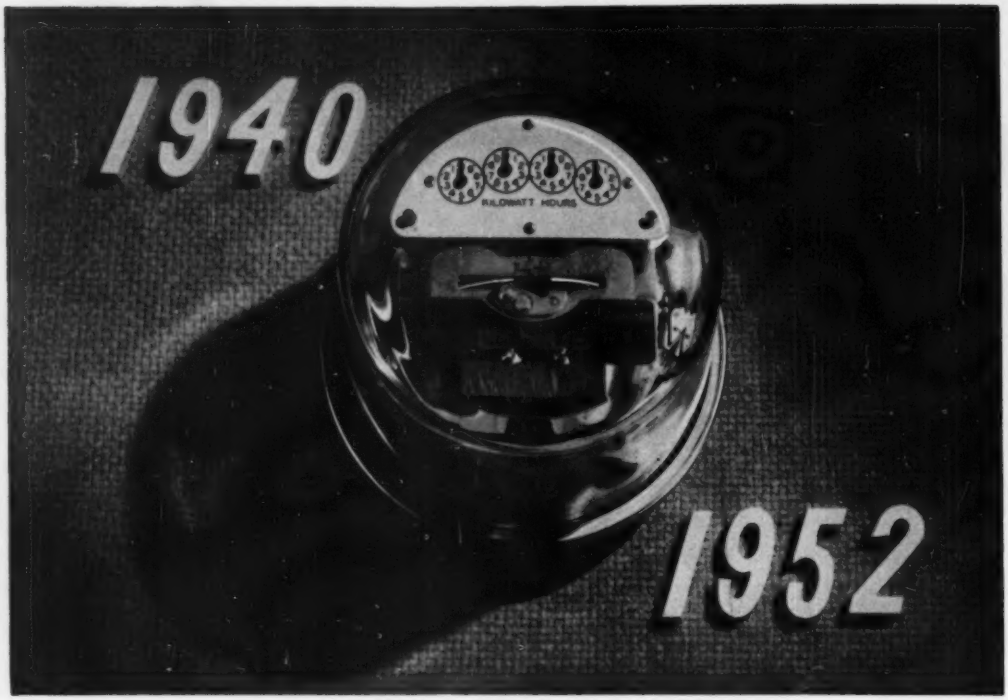
Less maintenance: All accessories conveniently grouped at high voltage end of transformer—network protector can be rolled out for inspection—gages are at eye level for easy reading.

GENERAL ELECTRIC

402-114



A new 500-kva General Electric network unit is lowered into its vault on Pine Street, San Francisco, by a Pacific Gas and Electric Company crew.



Sangamo J Meters

performance-proved by 12 years of service

In the consumer's mind the meter is the instrument which represents his dealings with the power company. In the interest of good public relations, the meter must instill confidence by its accurate performance . . . it must operate quietly and without trouble . . . and be thoroughly dependable.

Millions of Sangamo J Meters, many in use since 1940, give conclusive proof that they stay accurate. An eight year test record, by one large company, shows a change in average accuracy of only 0.03%. Such sustained accuracy is due in part to the modern noiseless, oilless, non-corrosive bearing system and the rigid dovetailing of elements in J Meters.

Troublefree operation is inherent in their construction. Built for outdoor installation, they are corrosion-resistant and are fully temperature compensated.

Only Measured Facts are Known Facts

SANGAMO
ELECTRIC COMPANY
SPRINGFIELD, ILLINOIS

Sangamo J Meters have proved their ability to meet today's requirements and tomorrow's anticipated loads with sustained accuracy, economy of maintenance and troublefree performance.

Wagner Wins Edison Medal

. . . of AIEE for "distinguished contributions in the field of power system engineering"

(See Front Cover)

The American Institute of Electrical Engineers has chosen Dr Charles F. Wagner, consulting engineer for Westinghouse Electric Corp, to receive its 1951 Edison Medal. The award will be presented this week during the associations' Winter General Meeting in New York.

Wagner, a specialist in power transmission and lightning protection and former manager of Westinghouse's Central Station Section, has been cited several times for his work in the power field. He and four others received the Belgian George Montefiore Prize for 1929 for the "best original work contributing to the scientific advancement in the technical application of electricity." He received the Best Paper Prize in Engineering Practice from AIEE in 1938 and the Best Paper Prize in Theory and Research from the institute in 1942.

Awarded Order of Merit . . . In 1942 Wagner received the Westinghouse Order of Merit and two years later, the honorary degree of Doctor of Engineering from Illinois Institute of Technology.

After World War II, Wagner was sent by the United States to Germany as a member of a committee to investigate electrical developments in that country during the war. In 1949 he represented the U. S. at the conference of the International Electrotechnical Commission in Stresa, Italy.

Did Research Work . . . Wagner was graduated from Carnegie Institute of Technology in 1917 and spent the following year doing graduate work at the University of Chicago. He joined Westinghouse Electric's research engineering department in 1918. In 1923 transferred to the staff of the late Dr C. L. Fortescue, noted lightning pioneer, where he aided in the development and study of lightning protective devices.

After a short period back in the research laboratories, Wagner went to the Central Station Section in 1935. Three years later he became consulting transmission engineer and in 1941 was named manager of the section. He was appointed consulting engineer in the central station and power fields in 1949.

•

Power Advances Rank 2nd in Poll of Editors

Electric power production and application developments were ranked as the second most significant engineering advance of the past century according to the majority opinion of editors of 32 trade journals and business publications. Developments in the production and use of steel took top honors.

The editors were polled by Dr John R. Dunning, dean of engineering at Columbia University. On the eve of the Centennial of Engineering, which will be observed this year by the American Society of Civil Engineers and other engineering organizations, he asked the editors the following question:

"What, in your opinion, has been the most significant development in your field of engineering in the past century?"

Those who considered the use of electric power of foremost importance listed as major developments the invention of the electric dynamo, the harnessing of hydroelectric power, the introduction of the alternating power system, the construction of the central station steam power plant, and the invention by Edison of the incandescent lamp.

Third on the list of significant achievements selected by the business paper editors was the development of the atomic bomb.

He Could Have Had a Refrigerator . . .

Robinson Crusoe wouldn't have had all the bother if he'd waited till '52 to be shipwrecked on Juan Fernandez, off the west coast of South America. Chile has just shipped in a gasoline generator to provide power for the island.

Would have ruined the story, though.

L. G. GITZENDANNER

Gitzendanner Receives Eta Kappa Nu Award

Louis G. Gitzendanner, section engineer in the General Engineering Laboratory of General Electric Co, Schenectady, N. Y., has been honored as the "outstanding young electrical engineer of 1951" by the Eta Kappa Nu Association.

He was cited for his skillful management of the concurrent development of varied complex electro-mechanical devices, his inspirational leadership of associates, and his unselfish participation in school and professional activities.

Two other engineers received honorable mention. They are Robert L. Trent, member of the technical staff of Bell Telephone Laboratories, for his work on the advanced development and design of communication and supersonic systems, and Burton K. Lester, section head at GE's Electronics Park, for his contributions in the development of military electronic systems. Both men also were cited for service to the community.

Purpose of the awards is to recognize young electrical engineers for "meritorious service in the interest of their fellow men."

Gitzendanner was awarded GE's Coffin Award for his work during World War II on the development of magnetic minesweeping equipment. After graduation from Lehigh University in 1941 he joined GE's Works Laboratory at West Lynn, Mass., and later was employed on the company's advanced engineering program at Schenectady. He presently has charge of mechanical developments, particularly automatic equipment, at GE's General Engineering Laboratory.

The appraisals they write . . .

J. D. Elliott, left, supervisor of Detroit Edison's Customers Billing Department, sits as chairman of a group meeting to appraise the work of a first-line supervisor in his department. "Appraisers" sitting in with him all have worked closely with the man being evaluated

Promote Your Best, Check the Rest

Detroit Edison tried this executive development plan in its Accounting Department, found it solved a headache

Detection of sub-standard management personnel and recognition of promotable management personnel are tough problems for any big company. And the bigger the company, the bigger the headache. Detroit Edison Co had the headache, but it has found the cure in its Management Inventory and Development Plan.

Introduced in 1949, the plan is now being used by eight sections of the accounting department. Company officials feel that the time and effort the plan requires are paying off in an even better way than expected. Here is how it works:

All first-line and second-line supervisors, assistant department heads, department heads, assistant corporate officers, and staff personnel reporting both to department and officer level are included in the program. This group of some 115 management people is responsible for the supervision of more than 1,000 employees. According to a rotating schedule, each man in each department comes up for "inventory" about once every 18 months.

There are four parts to the procedure: Appraisal, Review, Appraisal Interview, and Development. All phases are of equal importance to the complete program.

Appraisal . . . Purpose of the appraisal is to find out the present work competence of the individual and to design a program for further development. The appraising is done by a board. This is composed of at least four persons, all from a higher management level than the person being appraised.

The chairman of this board is always the man's immediate superior, usually the department head. Other members usually include the assistant department head, and two other men of department head level. All know the man being appraised, the work he does, and how he does it. Frequently, the man being appraised selects some members of his own appraisal board.

This board discusses each man's qualifications, weaknesses, potential ability—according to the general outline of the summary appraisal form. This appraisal technique is simple, conversational. It consists of spontaneous discussion augmented by cost reports, employee turnover data, and production records, where they are available and pertinent.

When decisions are reached on all counts, the appraisal is completed. Each member of the board must agree on the exact wording; each must sign the single copy made.

Review . . . Second step in the plan is the review. Its main purpose is to give higher management an account of the departments head's stewardship and point out the performance of his subordinates. In the review, the highest level of management can appraise the ability of the department head to evaluate and work with his supervisors.

Each department head appearing be-

. . . go to this board of review

A review board such as this one would consider the signed appraisal submitted by the lower echelon group. Each department head appearing before the review board brings with him appraisals of all members of his management staff, so higher-ups can evaluate his department

Through a Management Inventory

fore the review board brings with him the summary appraisals of all members of his management staff, as well as personal data, service records, and position descriptions for each man. The personal data and service record include the work record of the individual as well as his pay rate. The position description outlines his present duties and responsibilities as a guide for the review board.

In this meeting the highest level of management hears findings of each appraisal board for each individual. It listens to outlined suggestions for "action," considers appraisal board opinions of "potential."

The review board may suggest changes and additions to the summary appraisal. It may recommend policy changes or methods changes. Its main job, however, is to analyze the department head and to get a clearer picture of the department's operation under his supervision. Each department head is appraised by the review board just as each supervisor is by his appraisal board.

Appraisal Interview . . . This phase of Management Inventory and Development is necessary to communicate the findings and recommendations of the appraisal board to the supervisors who have been appraised. This report is made by the department head and requires a good deal of tact, understanding, friendliness.

The total findings of the appraisal board are sometimes not told the individual. It would be unfair to raise hopes that might not be immediately or ever be filled. Similarly, the purpose of the whole system is to build up personnel, not tear it down, so adverse criticism—although it appears on the appraisal—may be touched upon but lightly in the discussion.

The important thing is the two-way participation in the conversation. It often clears the air. Each man comes away with a clearer idea of what is expected of him, what he may expect from his associates.

Development . . . This is the most flexible stage of the whole system. Often the mere mention of a noticed weakness in the individual brings about a correction—either consciously or subconsciously. In other instances, group action or individual action is followed. The most universal approach to correcting weaknesses in management methods is to transfer people through different departments, give them "on-the-job" training in activities that will benefit them in their own departments.

Sometimes special courses such as public speaking and report writing are prescribed. Often, however, the individual is expected to take care of the situation himself. It is in his best interests to do so. His failure to do so will show up on his next appraisal.

Results . . . The repetition of the whole procedure—appraisal, review, appraisal interview, and development—regularly, as each year goes by, guarantees performance on the department head level. If the department head is not helping his subordinates to grow, it will show up in his appraisal and those of his subordinates.

Any evaluation of a program that has been in effect only two years must be somewhat inconclusive. However, there is a greatly heightened feeling of unity and working together in the groups using the plan.

MEETINGS

Lighting Entries Due Jan. 31

Winners of NEMA's competition will receive awards at the association's conference at Cleveland in May

Closing date for the mailing of entries in the Fourth International Lighting Exposition's Merit Award Competition is midnight of Jan. 31. The competition is one of the highlights of the exposition and conference, which is sponsored by the Industrial and Commercial Lighting Equipment Section of the National Electrical Manufacturers Association. The conference is scheduled to be held in the Municipal Auditorium, Cleveland, May 6-9.

Case study entries should be submitted to the Merit Award Committee, 326 West Madison St., Room 818, Chicago 6, Ill. A board of six judges will choose the winners that are to receive the 25 Gold Seal Awards of $100 each and the Merit Award Certificates. Awards will be presented at the conference.

The official rules require entrants to submit outstanding lighting installations utilizing the most advanced lighting systems, techniques, equipment, and other component parts of good lighting. Groups eligible include: Electrical contractors, utility lighting and power representatives, electrical distributors' lighting specialists and salesmen, architects and consulting engineers, and owners and users of industrial and commercial lighting.

The purpose and objective of the exposition-conference and competition are to help mobilize lighting knowledge for a stronger America from the standpoint of the latest equipment, installation methods, and application techniques.

Manufacturers in the industry will display their exhibits at the exposition.

Power Plant Meeting Scheduled for Feb. 7-8

The fifth annual Regional Conference on Power Plant Instrumentation, sponsored by the New York Section of the Instrument Society of America, will be held Feb. 7-8 at the Hotel Statler, New York.

The technical program, which is slated for both dates, will include discussions on the following:

1. Management yardstick for instrument costs.
2. Some considerations in the determination of excess air.
3. Instruments for power plant water treatment.
4. Instrument and control maintenance for safe operation of power boilers.
5. Automatic data recording and annunciation for power plants.
6. Instrumentation at Danskammer Point Steam Station.

The social program, scheduled for Thursday, Feb. 7, calls for the New York Section's annual banquet. Guest speaker will be Rear Admiral William S. Maxwell, USN (Ret.), deputy director of the Bureau Smoke Control, Department of Housing, City of New York. His topic will be "Smoke Screens."

Gasification Meet Later

The International Underground Coal Gasification Conference (EW, Jan. 7, p 21) has been postponed from late January to Feb. 12-14.

CALENDAR

American Institute of Electrical Engineers
Winter General Meeting, Hotel Statler, New York, January 21-25; Welding Conference, Rackham Memorial Bldg., Detroit, Mich., April 16-18, arranged jointly by American Welding Society, Detroit Section, and Industrial Electrical Engineers Society, Detroit.

National Adequate Wiring Bureau
Annual Conference, Sherman Hotel, Chicago, January 24-25.

National Association of Purchasing Agents
Public Utility Buyers' Conference, Cleveland Hotel, Cleveland, Ohio, February 4-5.

Instrument Society of America
1952 Regional Power Plant Instrumentation Conference, New York Section, Hotel Statler, New York, February 7-8.

Missouri Valley Electric Association
Industrial-Commercial Sales Conference, Hotel President, Kansas City, Mo., February 7-8; Engineering Conference, Hotel President, Kansas City, Mo., April 2-4.

Pennsylvania Electric Association
Winter Meeting, Transmission-Distribution Committee, Penn Harris Hotel, Harrisburg, Pa., February 7-8; Hydraulic Power Committee, William Penn Hotel, Pittsburgh, Pa., February 7-8; Systems Operation Committee, Benjamin Franklin Hotel, Philadelphia, February 14-15; Winter Meeting, Relay Committee, Fort Stanwix Hotel, Johnstown, Pa., February 20-21; Prime Movers-Electrical Equipment Committees, Benjamin Franklin Hotel, Philadelphia, February 28-29.

Edison Electric Institute
Electrical Equipment Committee, Netherlands Plaza Hotel, Cincinnati, Ohio, February 11-12; Transmission-Distribution Committee, New Hotel Jefferson, St. Louis, February 14-15; 18th Annual Sales Conference, Edgewater Beach Hotel, Chicago, March 31-April 3; Purchasing-Stores Committee, Roosevelt Hotel, New Orleans, La., May 11-14.

Public Information Program
East North Central Region Meeting, Fort Wayne Hotel, Columbus, Ohio, February 21.

American Society for Testing Materials
Spring Meeting-Committee Week, Hotel Statler, Cleveland, Ohio, March 3-7; Annual Meeting, Hotels Statler-New Yorker, New York, June 23-27.

National Electrical Manufacturers Association
Section Meeting, Edgewater Beach Hotel, Chicago, March 10-13; 4th International Lighting Exposition - Conference. Industrial-Commercial Lighting Equipment Section, Cleveland Auditorium, Cleveland, May 6-9.

National Rural Electric Cooperative Association
Annual Meeting, Conrad Hilton Hotel (formerly Stevens Hotel), Chicago, March 10-13.

National Association of Corrosion Engineers
Annual Conference, Buccaneer Hotel, Galveston, Tex., March 10-14.

Southeastern Electric Exchange
Engineering-Operation Section Conference, Jung Hotel, New Orleans, La., March 13-14; Annual Conference, Boca Raton Hotel, Boca Raton, Fla., April 21-23.

Illuminating Engineering Society
South Pacific Coast Regional Conference, Hotel Sir Francis Drake, San Francisco, March 13-14; Southwestern Regional Conference, Hotel Tulsa, Tulsa, Okla., April 6-8; Southern Regional Conference, Hermitage Hotel, Nashville, Tenn., April 20-22; Canadian National Conference, Hotel General Brock, Niagara Falls, Ontario, Can., April 30-May 2; Great Lakes Regional Conference, Hotel Statler, Cleveland, Ohio, May 5-6; East Central Regional Conference, Webster Hall Hotel, Pittsburgh, Pa., May 22-23; Northeastern Regional Conference, Hotel Preston, Swampscott, Mass., June 19-20.

Pacific Coast Electrical Association
Operating Economics Section Conference, Hotel California, Fresno, Calif., March 20-21; Administrative Services Section Conference, Los Angeles, April 17-18; Business Development Section Conference, Hotel Huntington, Pasadena, Calif., April 24-25.

A&M College of Texas
Annual Conference for Protective Relay Engineers, Department of Electrical Engineering, College Station, Tex., March 24-26.

American Society of Mechanical Engineers
Spring Meeting, University of Washington, Seattle, March 24-26.

Illinois Institute of Technology
American Power Annual Conference, Sherman Hotel, Chicago, March 26-28.

Oklahoma Utilities Association
Annual Convention, Biltmore Hotel, Oklahoma City, March 27-28.

Maryland Utilities Association
Lord Baltimore Hotel, Baltimore, April 4.

Rocky Mountain Electrical League
Spring Conference, Shirley Savoy Hotel, Denver, Colo., April 20-22.

★**American Public Power Association**
Spring Convention, Hotel Olympic, Seattle, April 29-May 1. Joint Meeting with Northwestern Public Power Association, April 28.

Public Utilities Advertising Association
Annual Convention, Hotel Radisson, Minneapolis, Minn., May 8-9.

International Organization of Standardization
Triennial Meeting, Columbia University, New York, June 9-21.

★ Addition this week.

BLADE FEATURES

of DELTA-STAR'S *New*

"B-2K" Outdoor Disconnect SWITCH

23kv, 600 ampere "B-2K" Disconnect

This new "B-2K" has everything you could possibly ask for in an outdoor disconnect switch—*excellent thermal characteristics; high electrical conductivity; a far more rigid blade construction; constant high-pressure, long-lasting contacts; positive, easy-operating blade pryout and lock assembly* with large 3-inch hook ring.

BLADE CONSTRUCTION assures accurate contact alignment. The hard drawn tubular copper blade is split and flared at the hinge end which gives it great transverse stability when open. There is no possibility of contact misalignment. Switches mounted above circuit breakers, transformers or other equipment are closed with accuracy and precision, even when it is necessary for the operator to stand to the side of the switch.

A cast bronze insert is riveted inside the blade at the clip end to prevent distortion when slamming it closed. Operation is quick and easy in all types of weather. A slight pull on the hook ring is all that is necessary to break ice or corrosion accumulations.

"B-2K" switches are available in single and double throw for upright and inverted mountings in current ratings of 600 and 1200 amperes and in voltages up to 161 kv.

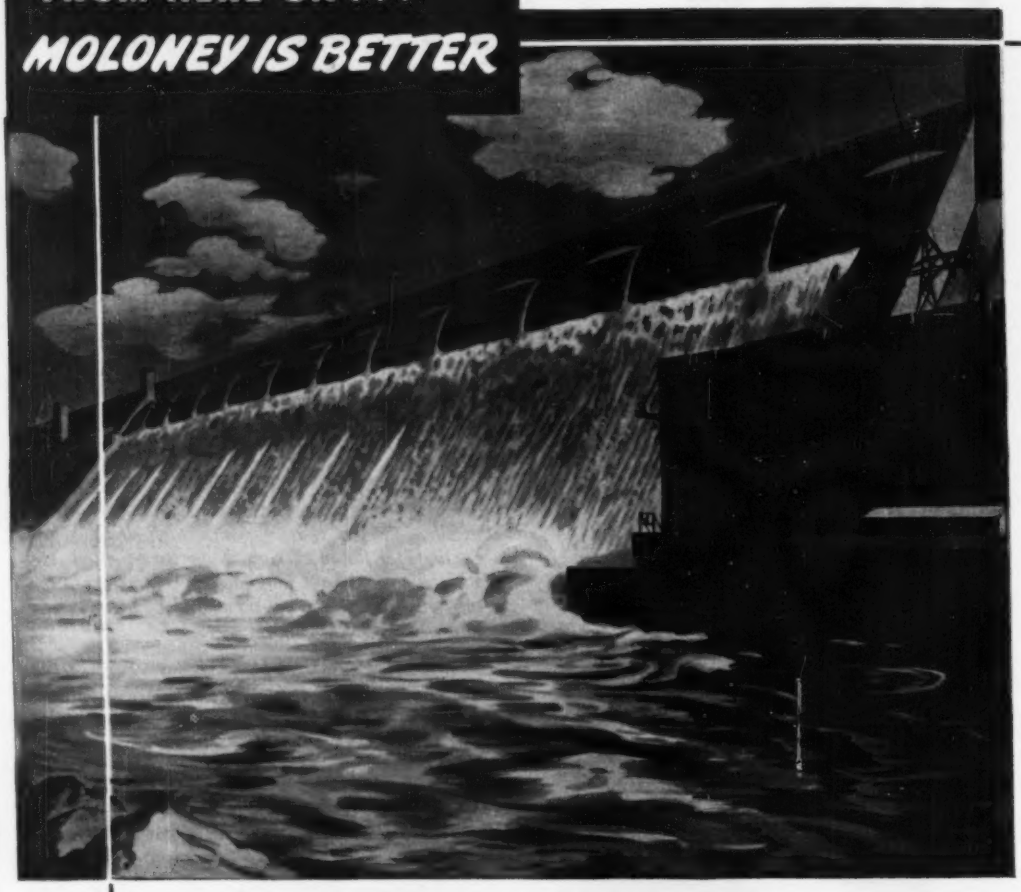
ASK FOR PUBLICATION 5104

WHEN YOU WANT THE BEST IN HIGH VOLTAGE SWITCHING EQUIPMENT SPECIFY DELTA-STAR!

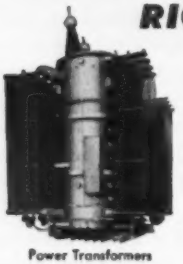
DELTA-STAR ELECTRIC COMPANY
DIVISION OF H. K. PORTER COMPANY, INC.
2437 Fulton Street • Chicago 12, Illinois
DISTRICT OFFICES IN PRINCIPAL CITIES

FROM HERE ON . . .

MOLONEY IS BETTER



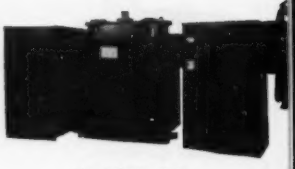
RIGHT DOWN THE LINE . . .



Power Transformers

Load Ratio Control Transformers

Feeder Voltage Regulators and Regulating Transformers



Load Center Unit Substations*

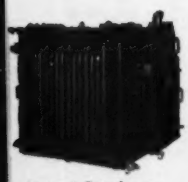
*Indoor and outdoor type

WHEN electrical energy is generated, the utility has the problem of delivering it to the consumer. Efficient transmission and distribution of this energy is an important consideration. To this end Moloney has devoted more than half a century in engineering, research, design and fabrication of better transformers. Moloney's vast facilities are at your disposal to help you develop and expand your system... efficiently! Moloney equipment will give better performance with greater reliability and with less maintenance expense... for a longer period of time. That is why we say that "from here on... *Moloney is better... right down the line.*"

MOLONEY ELECTRIC COMPANY

Manufacturers of Power Transformers • Distribution Transformers • Load Ratio Control Transformers • Step Voltage Regulators • Unit Substations

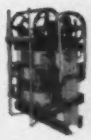
SALES OFFICES IN ALL PRINCIPAL CITIES
FACTORIES AT ST. LOUIS, MO. AND TORONTO, ONT., CANADA


Network Transformers

HiperCore Distribution Transformers**

Askarel Transformers

Air Cooled Transformers


Constant Current Transformers†

Subway Transformers

*Conventional and CSP Types

†Packaged Units and Standard Types

MOLONEY ELECTRIC = { BETTER PERFORMANCE / GREATER RELIABILITY / LESS MAINTENANCE

SHOW'S SPONSORS, Charles Y. Freeman (center), chairman of the board of both utilities, and Willis Gale (left), president of both, presented exhibit to Lenox R. Lohr, museum head.

THREE-DIMENSIONAL mockup helps visitors get the hang of a heat pump installation

Industry Stages a Display of Power . . .

. . . at Museum of Science and Industry in Chicago. Commonwealth Edison and Public Service of Northern Illinois set up the exhibit, have arranged a five-year stay

One of the largest exhibits on the electric power industry ever put together was presented recently to the Chicago Museum of Science and Industry by Commonwealth Edison Co and Public Service Co of Northern Illinois.

Electrical gimmicks by the carload were included to amuse visitors and incidentally instruct them on what it takes to make their lights go on when they flick the switch.

The exhibit has an Electric Theater that presents a story of production and distribution of power. There's a 10-minute movie and a 30-minute stage production. Not at all deadly, either

ROTATING STAGE gives visitors a chance to compare old and new style kitchens. The modern version was, understandably, equipped with all-electric appliances. Similar show-cases dotted the exhibit: one of them contained display of modern suburban street lighting

BICYCLISTS receive souvenir penny if they are able to generate power at ½-kwhr rate

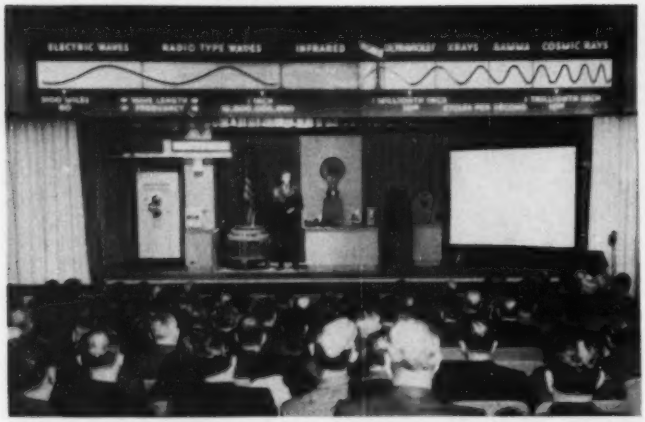
—for what it's worth, the audience is shown that a metal pan can be suspended in mid-air by using low-frequency electro-magnetic waves, that the glow from a cigaret lighter can be used to turn on a lamp. Performers in the show would have stood up well under the old 5-a-day vaudeville routine: some days at the museum they've had to put on eight.

Looks like they're in for a long run, too—the utilities have a five year contract with the museum.

(*Continued on next page*)

QUIZ BOARDS test visitors' knowledge of the science and techniques of electricity

MAURICE W. ROSS, Commonwealth Edison illuminating engineer, checked operation of "Electric Theater" foyer lighting on opening day: fluorescent lamps behind short lucite bars



THEATER auditorium seats 200 persons. On week ends, as many as eight electric shows are put on here a day. Exhibit is a permanent feature of Chicago Museum of Science & Industry

DEMONSTRATOR uses chemicals to produce "firefly" light as part of stage performance

Electrical gimmicks put life into the stage show

LEVITATOR in stage show suspends metal pan in air despite efforts of demonstrator and young lady to push it down to more solid support

PHOTO-ELECTRIC cell, another stage-show demonstration, turns on a lamp when source of light, such as cigaret lighter, is held before it

Facts from ALABAMA

"'CSP'® Transformers save $75.00 per pole on joint-use power line"

"$75.00 each per pole change. $4.00 each in cost of pole. $8.45 per transformer installed. These are the savings we obtained by using 'CSP' Transformers", says an Alabama Utility.

"Here's how we figured it:

"Ordinarily we use 35-foot poles on rural lines. While the Phone Co. was negotiating with us for joint use, we ran into a clearance problem. Conventional transformers would then require 40-foot heights. This meant new poles with change-out cost of approximately $75.00 each. However, 'CSP' Transformers afforded ample clearance on 35-foot poles, avoided the changing job, provided savings in pole cost on the proposed joint lines."

Also installation costs were reduced from $22.45 to $14.00 per transformer.

Installation and maintenance costs for Westinghouse "CSP" (Completely Self-Protecting) Transformers are always lower, because complete protective equipment is built in, not separately mounted. A two-year survey of Electric Light and Power Companies developed the National Averages shown at left.

NATIONAL AVERAGES

	"CSP"	Conventional
Installation Cost	$13.87	$24.74
Burn-out Rate	0.257%	1.005%
Fuse Outages	None	5.64% @ $6.52 per outage
Load Checks	Automatic	12.8%
Breaker Reset	1.02%	None

If you'd like to check your own costs against these national averages, ask your Westinghouse representative for Booklet B-4247-B, "Transformer Costs and Their Relation to Profits". Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

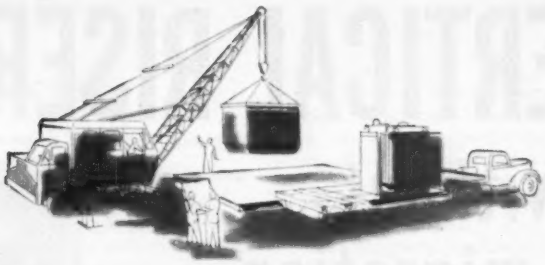
"CSP" devices . . . originated and patented by Westinghouse

Westinghouse

"CSP" DISTRIBUTION TRANSFORMERS

J-70598-A

FORT MILL
13 KV
GROUND SW
INERTAIRE
CONTROL



Consolidated Edison installs another Westinghouse Unit Substation . . .

for lower, long-range distribution costs!

Con Edison's expansion program aims at *long-range* distribution economy. That's why —wherever possible—they utilize modern unit substations. And what they have to say about a recent Westinghouse installation indicates how conveniently they—*and you*—can attain this objective.

"Its compact, factory-assembled design enabled us to immediately realize savings in real estate costs, in preparation of the installation site and in the actual installation itself. Also, it is contributing to better electrical service by improving voltage conditions. Most important, its flexibility and low-cost maintenance features will enable us to *economically maintain* high standards of service in an area where considerable load growth is anticipated."

Con Edison enjoys these benefits because Westinghouse Unit Substations are specifically designed to meet today's power distribution problems. "Unitized" construction enables you to add "blocks of power" to accommodate increased load requirements. And they're available in types to serve the most modern distribution systems.

For complete information, get your copy of Booklet B-4061. Ask your Westinghouse Representative or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Penna. J-60758

YOU CAN BE SURE... IF IT'S Westinghouse

UNIT SUBSTATIONS

VERTICAL RISER CABLES

...without migration problems

For Philadelphia Electric Company

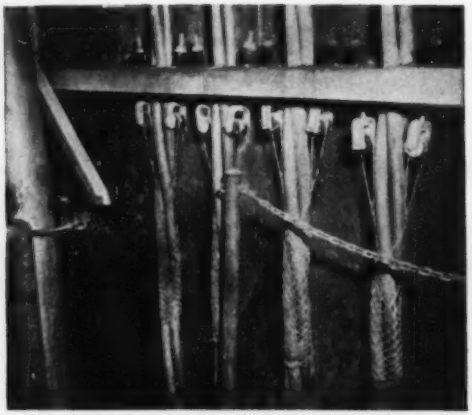
To overcome the problem of migrating compound in the vertical risers and the three per cent grade of the Schuylkill River Tunnel, the Philadelphia Electric Company chose 500 MCM G-E No. 1799 varnished-cambric-insulated cable with lead sheathing. Three cables were twisted together to form a triplex cable which simplified pulling-in during the installation.

To substantiate their design calculations, the Philadelphia Electric Company conducted a two-year tension test on a piece of 500 MCM triplex cable. They found that this design enabled the cable to withstand the stresses of the mechanical load much beyond expectations.

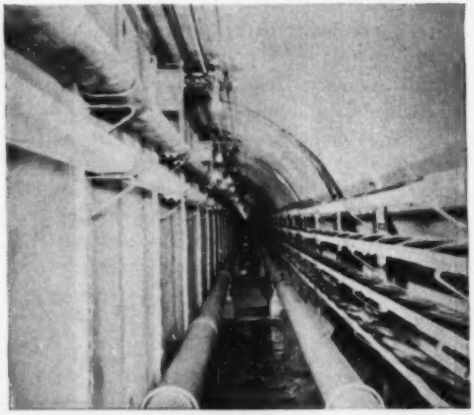
Another test showed that the minimum amount of slipper compound used in the construction of triplex cable prevented any drip of compound when the cable was held in a vertical position at 90° C.

G-E No. 1799 varnished-cambric-insulated cables are especially suited for installations that require high risers and vertical runs. These cables exceed industry standards and are made under rigid specifications from cloth woven of first quality, long staple cotton with a minimum of sizing and thoroughly impregnated with G-E insulating varnish.

Wherever you must beat migration or other difficult problems in installations up to 27 kv, look to G-E No. 1799 varnished-cambric-insulated cables. Write for further information to Section W14-127, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.



Fifteen circuits of General Electric 15 kv triplex cable insulated with G-E No. 1799 varnished-cambric insulation in 1350-foot lengths, run through the Philadelphia Electric Company's Schuylkill River Tunnel. In the 100- and 130-foot vertical shafts to the tunnel, risers are amply supported by wire basket grips laced around the lead sheath. Triplex cable is used because of two distinct advantages — increased current-carrying capacity and minimized migration of insulating compound.



In the horizontal part of the tunnel, G-E No. 1799 varnished-cambric-insulated triplex cable minimizes the tendency to crawl down the three per cent grade. The cables are supported by "U" shaped cement trays. At each end of the tunnel the cable is fireproofed and fastened to the wall with wooden cleats. This arrangement secures the cable without injury to the sheath.

VARNISHED-CAMBRIC CABLE

You can put your confidence in—

GENERAL ELECTRIC

NEWS ABOUT PEOPLE

R. D. Maxson Is Elected . . .

. . . Vice president of Commonwealth Edison. In new set-up LeClair, Sullivan, Stone, and Wild will head four subdivisions

R. D. Maxson has been elected vice president of Commonwealth Edison Co. His appointment becomes effective Feb. 1 with the retirement of Alex D. Bailey, vice president in charge of engineering and operation, and Curtis A. Lambert, vice president in charge of construction and maintenance.

Maxson is now engineering vice president of Public Service Co of Northern Illinois, a subsidiary of Commonwealth Edison, and will retain that position in the new set-up. Thus, he will be in charge of corresponding work in both companies.

New Organization Alignment . . . The organization under Maxson will be divided into four subdivisions, headed by newly appointed executives who will have corresponding duties in Public Service and Commonwealth Edison.

Titus G. LeClair has been appointed manager of engineering; John F. Sullivan, Jr, manager of construction; Vern L. Stone, manager of power production; and Earle Wild, manager of power supply.

The new vice president started with Public Service as an assistant inspector in Crystal Lake in 1921. He continued in engineering work, serving successively as district engineer at Streator and Chicago Heights. In 1926 he was transferred to the general office and three years later became assistant electrical engineer of the company. In 1936, he became western division manager, previously having been assistant division manager. He continued as division manager until 1940 when he was made manager of gas operations. Three years later Public Service named Maxson a vice president.

R. D. MAXSON

Newly Appointed Executives . . . LeClair, chief electrical engineer, joined Commonwealth Edison in 1923 as a cable engineer. Since then he has held positions as engineer of system protection, development engineer, supervising development engineer, and staff engineer. In 1945 he was named chief staff engineer, in 1948 assistant chief electrical engineer, and in 1950 chief electrical engineer.

Sullivan, who has been Lambert's assistant for the past several years, began with Commonwealth Edison in 1925 as an inspector. Three years later he became a field engineer and assistant construction engineer in 1930. He was made superintendent, structural and mechanical division, in 1936, assistant superintendent of construction in 1942, and superintendent of construction in 1943.

With Commonwealth Edison since 1924, Stone has spent his entire time in generating station work, advancing to the position of superintendent, generating stations, in 1951.

Wild, chief load dispatcher of Commonwealth Edison, started with the utility at its Northwest station as an exciter operator in 1924. Four years later he transferred to the office of superintendent, generating stations. In 1930 he was made a load dispatcher, in 1944 assistant chief load dispatcher, and in 1947 chief load dispatcher. During World War II, from 1942 to 1944, he served the War Production Board as power coordinator for New England and other eastern states.

In another appointment, John R. Michel, a company employee since 1923, was made a staff assistant to Maxson with the title, general system engineer. Michel has served recently as an assistant to the retiring vice president, Bailey. Myron Lukey, who has been associated with Public Service since 1925, will continue to be a staff assistant to Maxson as administrative engineer.

Retiring VPs . . . Bailey, vice president in charge of engineering and operation for Commonwealth Edison since 1944, joined the company as a draftsman in 1903. In 1906 he was made assistant chief engineer, in 1917 chief engineer at Fisk station, in 1921 superintendent of generating stations,

T. G. LeCLAIR | J. F. SULLIVAN, JR. | V. L. STONE | EARLE WILD

and in 1936 chief operating engineer. He was appointed assistant to the vice president in charge of operating and engineering in 1943.

Lambert started with the company in 1906 as an inspector in the engineering department. He was made chief clerk and inspector in 1913 and was appointed building superintendent of the construction department in 1924. He became superintendent of the building and mechanical division in 1926 and was promoted to assistant construction engineer in 1927, becoming superintendent of construction in 1936. He was appointed assistant to the vice president in charge of service and construction in 1942 and was named vice president in charge of construction and maintenance two years later.

•

Robin Kersh Elected a VP by Westinghouse

Robin S. Kersh has been elected executive vice president of Westinghouse Electric International Co to succeed E. V. Huggins, who was recently named Assistant Secretary of the U. S. Air Force.

For the past year, Kersh has been manager of the Steam Division of Westinghouse at South Philadelphia, Pa.

The new executive vice president started with Westinghouse in 1929 as

R. S. KERSH

a graduate student at East Pittsburgh, Pa. He did sales work for seven years in the company's offices at Atlanta, Ga., and Birmingham, Ala., and in 1942 was appointed branch manager at Houston, Tex. He returned to East Pittsburgh in 1947 as manager of sales of the Industrial Department, and two years later was named manager of sales for the Central Station Department.

•

Minneapolis-Honeywell Appoints Morse a VP

Gerry E. Morse has joined Minneapolis-Honeywell Regulator Co as vice president in charge of industrial relations.

Before joining Minneapolis-Honeywell, Morse was associated with Syl-

G. E. MORSE

vania Electric Products, Inc, since 1933 and was a member of that company's industrial relations department since its organization ten years ago, specializing in labor law compliance and personnel policy development. In 1948 he was made director of employee relations for Sylvania.

In his new position at Minneapolis-Honeywell, Morse, operating in a staff capacity, will be responsible for the coordination and guidance of the firm's various personnel functions and for the formulation of the company's long-range industrial relations policies.

•

Frankel, Mossiman Get New EW Assignments

Herbert R. Frankel has been made an associate editor of Electrical World, and Ary Mossiman statistician.

Frankel came to the magazine in July 1951 as assistant to the editor. He had been with Corporate Intelligence, Inc, publisher of the "Utility Spotlight." Previously he had been with Edison Electric Institute and Commonwealth & Southern Corp.

Mossiman has been an assistant editor since last April. A graduate of Pratt Institute, he had been a junior designer for Ebasco Services.

OBITUARY

T. A. Busby

Terrell Alston Busby, 53, who recently assumed the duties of vice president and assistant to the president of South Carolina Electric & Gas Co (EW Dec. 31, 1951, p 115), died at Columbia Jan. 9. Before this promotion he was operating vice president.

Busby had served several years in the meter department of the Alabama Power Co before joining the former South Carolina Power Co at Charleston in 1928. There he was in charge of electric meter operations. In 1931 he became associated with the Commonwealth & Southern Corp in a similar position with headquarters in Birmingham. Three years later he returned to the Charleston company as meter engineer, later becoming assistant to the general manager of the company. In 1945 he was elected vice president in charge of operations. Following the merger of the South Carolina Power utility with South Carolina E&G in 1950, Busby was transferred to Columbia as operating vice president.

•

W. Otis Minard, 62, vice president and manager of the Connecticut Valley Electric Co's southern district at Claremont, N. H., died Dec. 29. He had been a director of the wholly owned subsidiary of Central Vermont Public Service Corp, Rutland, since its organization two years ago. Previously he had been for many years manager of the Claremont division of Central Vermont Public Service.

Roy E. Ballard, 64, auditor for the St. Paul (Minn.) division of Northern States Power Co since 1946, died Jan. 1. Ballard started in the Minneapolis general office in 1925.

Joseph A. Pryor, 71, superintendent of the machine division of Foster Wheeler Corp's Carteret (N. J.) plant, died Jan. 7 at Elizabeth, N. J. He served the company 48 years.

David B. Baker, 63, who retired Dec. 15 as manager of engineering for the industrial division of International Harvester Co, died Jan. 2 at Riverside, Ill. He was with the company 42 years.

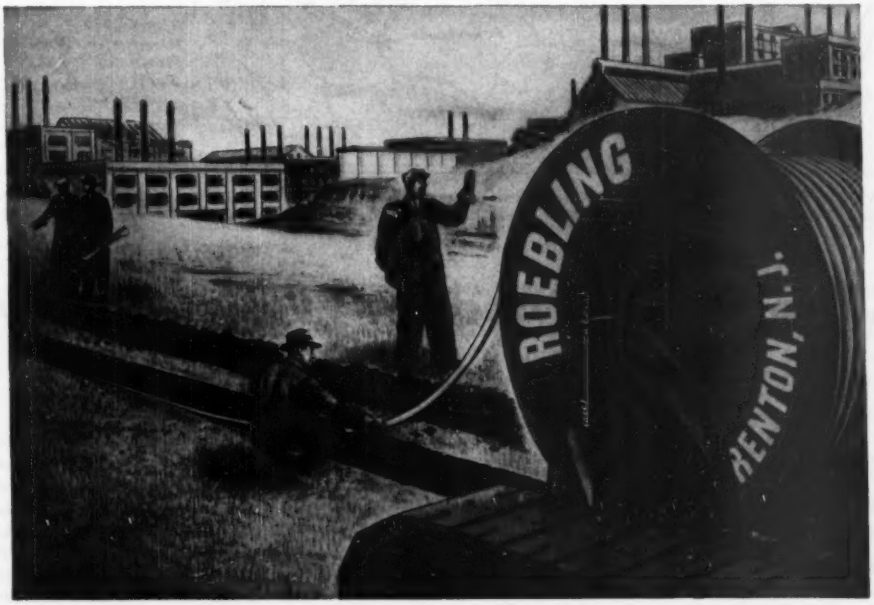
PARKWAY CABLE

Saves the cost of duct systems

FOR GENERAL POWER SUPPLY and distribution circuits, Roebling Parkway Cable is outstandingly efficient and economical. This cable is laid directly in the ground, in a shallow two- or three-foot trench. And after it's installed, Roebling Parkway will give you thoroughly dependable, uninterrupted service – always.

Roebling Parkway Cable is made in both single and multiple conductor types – either solid or stranded – in a range from 600 to 5000 volts. Both types are furnished with metallic armor or with a non-metallic, NEOPRENE sheath which affords full physical protection.

Large quantities of Roebling's complete line of electrical wires and cables are now required in the national rearmament program. You can count on the Roebling organization and Roebling distributors, however, for the best deliveries and service that they can give. John A. Roebling's Sons Company, Trenton 2, New Jersey.



ROEBLING

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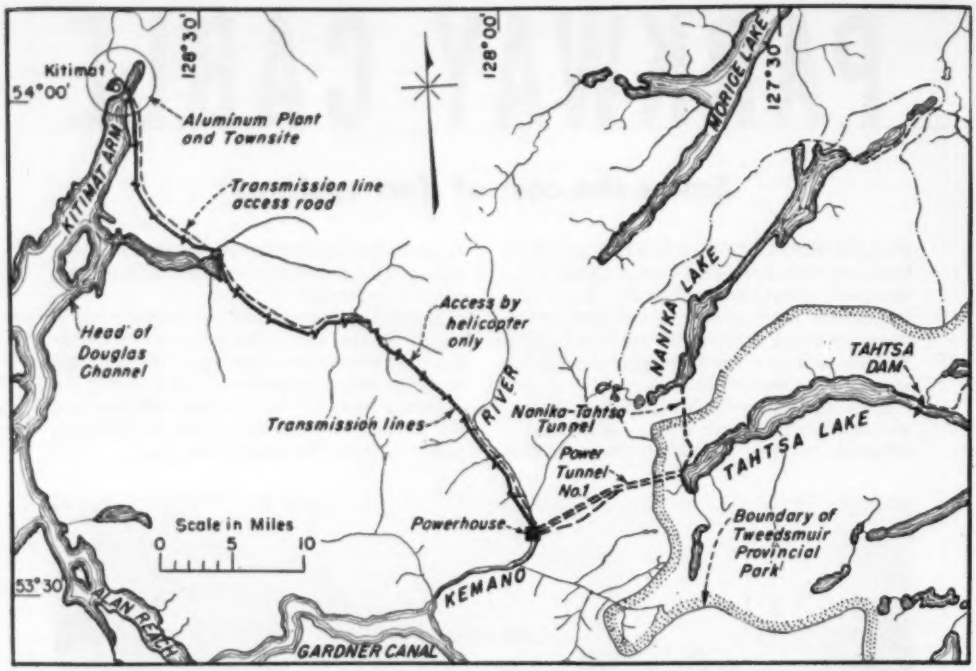


ALCAN'S NECHAKO-KITIMAT PROJECT in northwestern British Columbia is located about 100 miles south of Prince Rupert, B. C., and about 500 nautical miles from Vancouver. In one area transmission lines are accessible only by helicopter due to rugged terrain

Alcan Begins Modern 1.7-Million Kw Underground Hydro Plant . . .

. . . as part of $500 million alumina refining project in British Columbia. Initial capacity of 318,000 kw will provide for processing 183 million lb of alumina annually by 1954. Ultimate goal is refinement of 1.1 billion lb of alumina per year

First 300-kv, oil-filled cable and the first modern underground powerhouse in North America will be part of Aluminum Co of Canada's $500 million Nechako-Kitimat project now being built in northwestern British Columbia (EW, June 4, 1951, p 142). The project also involves two 287-kv transmission lines through unbelievably rugged terrain in the Cascade Mountains. Portions of these lines call for a specially designed 2.26-in. diameter ACSR conductor, which will be the largest ever built.

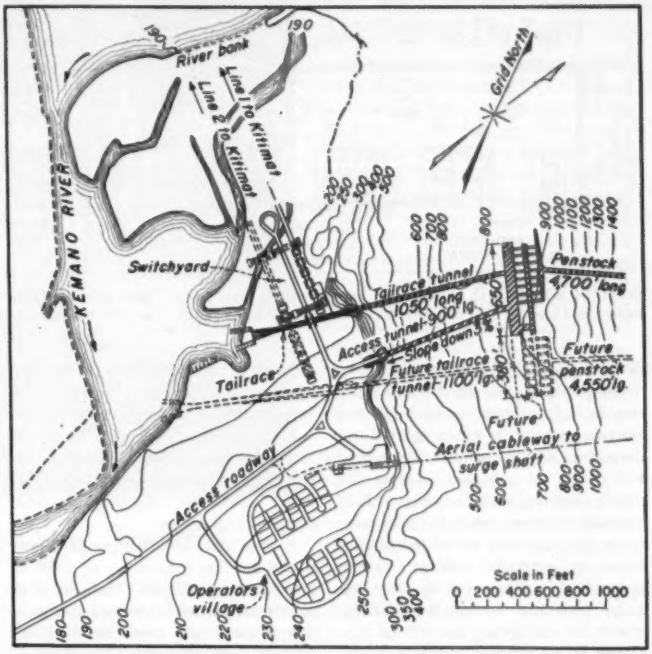
Excavation for the 132-ft high, 81-ft wide underground generating chamber was started in November, 1951, after completion of a 1,450-ft access tunnel. Ultimately the chamber will be 1,080 ft long and will house 16 generators each rated 106,000 kva. Its initial length will be 650 ft.

The Nechako-Kitimat project will generate and transmit power 50 miles to Kitimat, the site of Alcan's tidewater plant where raw alumina shipped by water from the British West Indies will be refined. The initial installation of three 106,000-kva units, a double-circuit 287-kv transmission line and equipment for refining 183 million lb of alumina per year is scheduled for completion early in 1954. It will cost $160 million. Ultimately 16 units, totalling 1.7 million kw, will supply power to refine over 1.1 billion lb of alumina per year. The project is located on the Pacific coast about 100 miles south of Prince Rupert, B. C., some 500 nautical miles from Vancouver, in and adjacent to Tweedsmuir Provincial Park.

Mechanical and electrical highlights of the first phase of the project include: (1) Six 300-kv, 515,000-cir mil, oil-filled cables to carry power 2,200 ft from the underground chamber to the switchyard above ground; (2) the generating chamber that houses three 140,000-hp, four-nozzle turbines designed for a 2,590-ft head; and (3) the 50 miles of double-circuit, 287-kv

Features of Nechako-Kitimat Project

	Initial	Ultimate
Cost in millions	$160	$500
Alumina processing	183 million lb	1.1 billion lb
Capacity	318 Mva	1,696 Mva
Turbines (140,000 hp, 4 nozzle)	3	16
Generators (106,000 kva 0.8 pf)	3	16
Transformers, single phase (71,000 kva, 13.8–287 kv)	6	24
Cables, oil filled (515,000 cir mils, one conductor, 300 kv)	6	24
Transmission line		
Two single circuits (2.26-in. ACSR, 287 kv)	10½ miles each	same
Double circuit (1,590,000 cir mil ACSR, 287 kv)	39½ miles	Second paralleling line
Load (single circuit)	850,000 kw	same
Powerhouse (81 ft wide, 132 ft high)	650 ft long	1,080 ft long
Water storage		
Total	19 million acre-ft	same
Live	4 million acre-ft	same
Head	2,590 ft	same
Access tunnel (27 ft wide, 31 ft high)	1,450 ft long	same
Town of Kitimat (population)	7,000	50,000



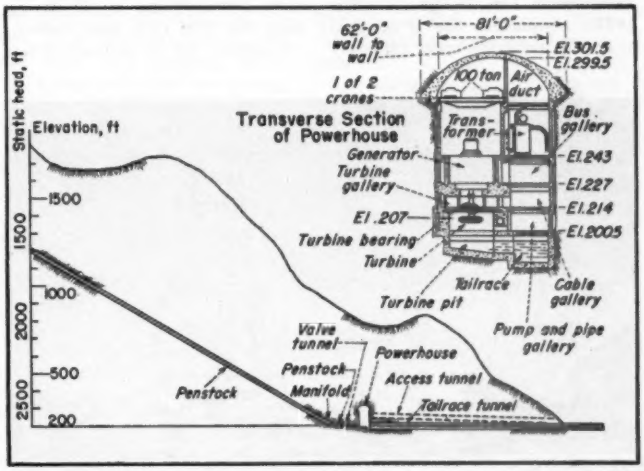
INITIAL DEVELOPMENT of Nechako-Kitimat project will include 132-ft high, 81-ft wide, 650-ft long underground generating chamber, three 106,000-kva hydro-turbines, mile-long 15-ft diameter penstock and 1,050-ft long tailrace tunnel. Voltage will be stepped up from generator potential to 287 kv and carried out to switchyard by 300-kv oil-filled cables

transmission line, with one ten-mile section of two single-circuit lines using 2.26-in. diameter ACSR conductor.

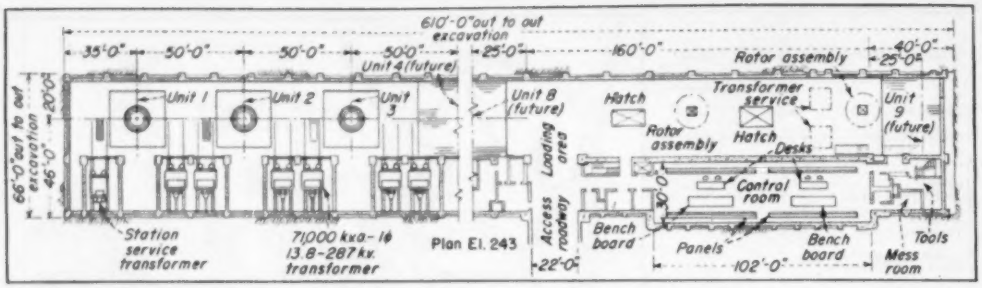
Cable Design . . . Cables will be the first of their size, as well as voltage, in North America. They will be about 4-in. outside diameter, 515,000 cir mil, single copper conductor, hollow core, paper insulated, oil filled, rated at 300 kv. Oil will be kept under 60-psi pressure between the sheath and the insulation in small longitudinal passageways formed in the inner surface of the sheath at the time of manufacture. One of the two manufacturers awarded the initial order will supply aluminum sheath on his cable.

The cable will be fabricated and delivered in 725-ft lengths and spliced in place, with joints staggered on open racks in the cable tunnel. Location of cable tunnel will be above the tailrace tunnel, which runs adjacent to the switchyard site. Runs will vary from 2,150 ft to 2,260 ft.

Powerhouse Design . . . The powerhouse chamber will be excavated in solid rock about 500 ft underground. It will be completely lined inside, with a concrete arch section poured in place on steel formwork for the ceiling, and concrete curtain walls on the sides as part of the craneway support. A ventilation space behind the curtain walls will prevent moisture accumulation. Access tunnel is 27-ft wide and 31-ft high, so that equipment can be brought in on large, low-bed trailers. Tailrace tunnel will be a rectangular section 24-ft wide and 40-ft high, in-



GENERATING CHAMBER 480-FT UNDERGROUND will be accessible through 27-ft wide, 31-ft high tunnel. Mile-long, 15-ft diameter penstock will supply water for eight 140,000-hp turbines. Ultimately a second penstock will be built to serve eight additional units



CONTROL ROOM LEVEL of generating chamber houses power transformers and area for rotor assembly. Relay room and adjacent switchgear room are below control room. Ultimately the control room will be the chamber center, with eight 106,000-kva units on each side

cluding an arched ceiling.

Single-phase, step-up transformers, one bank of three 71,000-kva units for two generators, will be located underground in the chamber. Switching will be on the low side. Amount of power involved made it impractical to consider carrying power the comparatively long distance out of the powerhouse at generator voltage. House power will be taken directly from the main generator terminals. Standby power for emergency use will be furnished by an internal combustion engine-generator.

The control room will be located at the same level as the power transformers, between the sites for Units 8 and 9. Relay room will be below the control room, with the switchgear room adjacent to it. Bus galleries running the length of the chamber will also be on this level.

Transmission Line Design . . . The 287-kv transmission line is designed to provide reliability under extremely difficult conditions. Because outages of more than about 2 hr would be very expensive, continuity of service is a prime consideration. Route of the line is through mountainous country subject to severe storm, wind, and icing conditions, requiring careful planning and design.

A 10½-mile stretch through a pass where the line must cross at 5,500 ft is particularly difficult. The pass is so narrow that space is available for only two single-circuit tower lines. Load on these lines will reach 1,700,000 kw, or 850,000 kw per circuit.

For the initial operation, only one line will be operated. But because a second line could not be constructed with the first energized, the two single-circuit lines will be built at the same time. Data recorded on a test span during the winter of 1950-51 resulted in a design calling for a breaking load at 5 in. of radial ice and rime, corresponding to 40 lb per lineal foot with 11-lb wind loading.

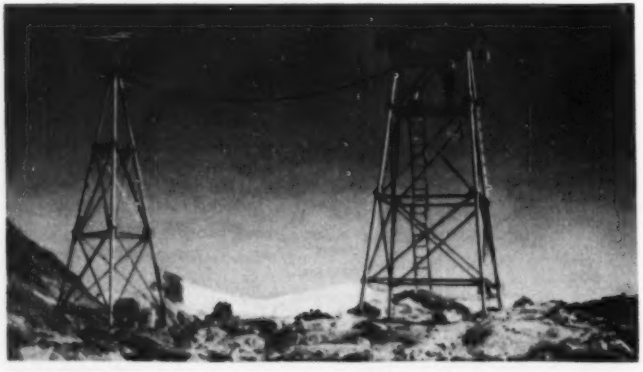
Conductor for this section will be a specially designed 2.26-in. ACSR conductor. Steel towers to provide horizontal configuration will weigh about 25 tons each. Concrete footings will be 20 ft high to keep tower bases above the average snow depth.

Span lengths will be about 1,400 ft, dictated by distances from point to point through the pass, with a maximum span of about 3,300 ft. Because lightning exposure is relatively light, the line will carry ground wires only at the terminals. Basic insulation level for the nominal 287-kv design will be 1,050 kv.

On this portion of the project, design of the line is only the beginning. Transportation of men and materials in the pass area is so difficult that a good part of it will probably be done by helicopter. Present plans are to use a helicopter capable of carrying 10 men or one ton of materials. In some areas the helicopter will take in hoists and winches so that material can be pulled up the mountain side on sleds.

Between this pass and the powerhouse, the terrain becomes less rugged and is at a lower elevation. Initially one double-circuit steel-tower line, to be followed by a second ultimately, will be built in this section, using a 1,590,000-cir mil ACSR conductor. On the other end of the line running from the pass to Kitimat, the terrain is relatively open and similar lines will be built.

Plans call for completion of the first of three initial generating units by April, 1954, with the next two following at two-month intervals. A direct result of construction and operating of the first phase of the project will be the town of Kitimat, with a population of 7,000. The town will grow to an ultimate of 50,000 when the project is completed.



TEST TRANSMISSION SPAN erected in 1950 to measure ice loading at 5,500 ft dictated designing for a breaking load of 5 in. of radial ice and rime, a loading of 40 lb per lineal foot. A specially designed, 2.26-in. ACSR conductor, the largest yet built, will be used

ERP Provided the Volcanic Steam

Workmen at the control panel of this power plant in Larderello, Italy, owe their jobs to European Recovery Plan funds, which financed American drilling equipment to tap the volcanic steam that turns the turbines. The tremendous reservoir of natural steam makes it possible for the plant to provide 2 billion kwhr annually for power-hungry Italy.

IBEW Renews Threat to Pull Out of AFL Unit

The oft-repeated threat of the International Brotherhood of Electrical Workers to pull out of the AFL Building Trades Department and boycott the National Joint Board for settling construction industry jurisdictional disputes has become more real in recent months.

IBEW has been at odds with the AFL Operating Engineers over the handling of equipment in connection with the installation of electric transmission lines. It has been dissatisfied with Joint Board decisions and is now threatening again, this time seriously, to go its own way and have it out with the Operating Engineers in a test of strength.

In the background, also, are differences between the general contractors and the specialty contractors. The specialty contractors and the unions in their special fields, like electricians, feel that they are outvoted on the Joint Board by representatives of general contractors.

The whole problem will be thrashed out at the Building Trades and AFL Executive Council meetings at Miami at the end of this month. The negotiating committees of the Building Trades and the contractors will also meet at that time to discuss changes in the Joint Board setup. The specialty contractors and unions may be given more representation on the Joint Board thus pacifying IBEW. If the matter isn't ironed out satisfactorily, it could break up the National Joint Board.

The board, with John T. Dunlop as impartial umpire, was set up in 1948 by the construction industry and AFL Building Trades Unions to provide a means of settling AFL jurisdictional disputes voluntarily and thus avoid compulsory steps contained in the Taft-Hartley labor law.

The Construction Industry Stabilization Commission, an arm of the Wage Stabilization Board, is considering a 1952 wage policy, but will not do anything until after the Miami meetings. Representatives of the construction industry and the AFL Building Trades are members of Construction Industry Stabilization Commission.

Con Ed Employees Get 11¢ General Pay Boost

Consolidated Edison Co of New York and the Utility Workers Union of America, CIO, recently reached a wage agreement covering 26,000 workers which the company estimates will add $10,277,000 to its annual payroll.

The agreement calls for a general increase, effective Jan. 6, of 11¢ an hour and a continuation of the present wage progression plan which provides increases within the wage bracket of each job of 5¢ an hour every six months. Other provisions permit further upward adjustments for employees in the lower pay categories.

Con Ed announced it also planned to increase gross pensions by 10%. This increase would apply to the 4,200 system employees now retired as well as to new pensioners.

UWU and the company agreed to continue the existing contract, with the inclusion of the new wage clauses, to March 1, 1953. The agreement is subject to the approval of the Wage Stabilization Board.

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Ruling Holds Foreman Can't Help Other Union

Under the Taft-Hartley labor law, a supervisor may be fired for union activities, but not for refusing to engage in an unfair labor practice. Applying this view of the National Labor Relations Board, a trial examiner has recommended dismissal of a union complaint against the U. S. Phosphoric Products Division, Tennessee Corp, Tampa, Florida, for firing a labor foreman.

The examiner disagreed with the AFL Chemical Workers Union charge that the foreman was fired for refusing a company request that he stop helping this union and work, instead, for an Independent Employees Association. The evidence showed that the foreman was fired simply for helping the Chemical Workers Union organize the plant, the examiner found.

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Accept Wage Increase

Members of Local 77, International Brotherhood of Electrical Workers, AFL, in western Washington State have accepted a wage increase of 7.9% offered by the Puget Sound Power & Light Co, as well as improved vacation schedules.

Now— L-M brings JEFFERY-DEWITT

JEFFERY-DEWITT INSULATOR CORPORATION *now a part of* LINE MATERIAL COMPANY

The Jeffery-Dewitt Insulator Corporation of Kenova, West Virginia, through acquisition by McGraw Electric Company, is now a part of the Line Material Company Division.

The business will continue operations with its present staff under the direction of W. L. Stinson. W. V. Swan, a member of the L-M sales staff, has been appointed manager of porcelain sales.

The acquisition offers advantages to both J-D and L-M customers. It is a further step in the successful growth of Line Material Co. and another addition to the broad service and fine line of products being offered by L-M to the electrical industry. The addition of this well-known company should result in better service and improved coordination in the supply of line construction materials and porcelain products and hardware.

J-D products will be available through L-M Field Engineers, sales offices, and warehouses along with L-M's extensive line of electrical utility apparatus, equipment, and materials.

W. V. (Bill) Swan, of L-M's Field Engineering staff, is now manager of porcelain sales.

New Operation offers advantages to J-D and L-M customers

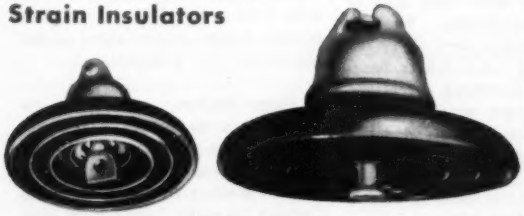
- L-M now offers a complete line of the finest quality insulators and hardware directly from its own plants.
- L-M's large staff of Field Engineers can now give users of J-D products better service, with more frequent calls and broader and more complete engineering service.
- With the coordination of products and shipments, customers should soon benefit by savings in ordering, receiving, checking and warehousing.
- The cooperation of L-M's sales, engineering, production, and operating departments will aid in the development and production of improved porcelain insulators and hardware.
- L-M Field Engineers have full information on the very extensive and complete J-D line now available to you through L-M's sales organization.

77

LM® J-D

you the complete "J-D" line of INSULATORS and HARDWARE

J-D Suspension and Strain Insulators

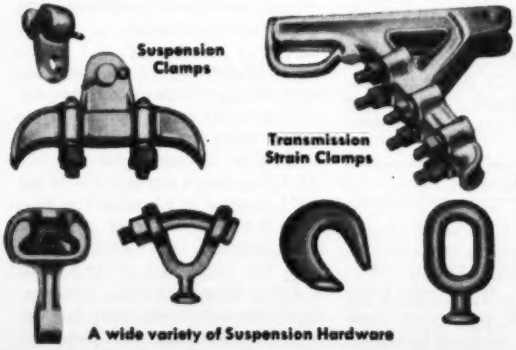


Suspension Insulators

Guy Strain Insulators

Spool Insulators

J-D Suspension and Strain Hardware



A wide variety of Suspension Hardware

Suspension Clamps

Transmission Strain Clamps

J-D Pin Type Insulators and Line Posts

Low Voltage Pin Type Distribution Insulators

High Voltage Pin Type Distribution Insulators

Line Post Insulators

J-D Switch and Bus Insulators

For information on types and sizes of insulators, hardware, and fittings you may require, ask the L-M Field Engineer who calls on you, or write Line Material Company, Milwaukee 1, Wisconsin (a McGraw Electric Company Division).

1951 Appliance Sales Drop from 1950

Refrigerators and TV slide the most as customers become scarcer than materials, but the newer appliances make substantial gains. Heavy inventories, slow buying will postpone 1952 shortages.

For most appliance dealers, the story of 1951 sales was a sad one. When the war-scare boom collapsed in April they were caught with inventories that bulged warehouses. When the traditional spring sales pickup failed to materialize they had to face the fact that the shortages of merchandise they had expected had turned into a shortage of customers instead. And the rest of the year was a tough, unending effort to move merchandise at any price that would keep the rent paid and the lights lit. Some of them, when the figures were added at year-end, could read dollar volumes comparable to 1950, but the profit column told a different and rather unhappy story.

The Record Tells. . . . The story is implicit in total sales figures for the year. According to *Electrical Merchandising*, refrigerators and television sets took the brunt of the slump. Refrigerator sales, at 4,075,000 units, were off 34.3% in units, 30.1% in dollars. TV, which had been the industry's boomchild, was a sour prodigy with 5,100,000 units, off 31.7% unitwise and 29.7 in dollars.

Major Appliances Down. . . . Electric ranges suffered, too. The 1,400,000 units represented a drop of 23.5% from 1950, but in dollars ranges fared better: $343,000,000, a decline of only 19.2%. Not so lucky were ironers, off 31.6% in units (280,000) and 28% in dollars. Vacuum cleaners took a unit drop of 23.5%, a dollar decline of 17.4. Standard size electric washing machines and electric water heaters held up better than most of the old-line appliances. Washers, with 3,433,000 units, were off 19.7% in numbers, only 7.9 in dollars, benefiting from the increasing acceptance of automatic types which far surpassed conventional models in dollar volume and were within 250,000 of the unit total. Water heaters, with unit sales of 845,000, were off 14.6% in numbers and 13% in dollars.

Newer Appliances Up. . . . Despite these sad showings, some appliances, almost unnoticed in the early gloom of the end of the boom, made substantial and even startling gains. Clothes dryers, for example, were unable to meet demand all through the year, ended up with 495,000 units, and a dollar volume of $118,162,300, advances of 55.4 and 67.7%, respectively. Freezers began to live up to their early promise with a climb of 13% in units (1,050,000) and 30.7% in dollars.

Room airconditioners, the hoped-for substitute for TV during the summer slow season, did not do as well so many retailers expected, nevertheless hung up a new record of 251,000 units, a jump of 28.7%, and $91,615,000, an increase of 27%. Gains were also made by dishwashers (up 13%), dehumidifiers (22%), disposers (4.7%), roasters (10.5%), and several small appliances, including steam irons, deep fat fryers, blenders, electric bed coverings, and broilers. Declines in fluorescent tube and miniature bulb sales were offset by a gain in incandescent and photographic bulbs to hold lamp sales almost exactly even with 1950 in units and slightly higher prices raised dollar volume 7.5% to $501,500,000.

A Bigger Market. . . . Without the startling progress of some of the newer major devices the year would have been a lot worse. Items such as dishwashers, freezers, dryers, and air conditioners benefited from a high level of consumer income, and the disappearance of the American maid. But the established, high-acceptance appliances like refrigerators (86.7% saturation), and vacuum cleaners (57.7%), suffered from the tremendous sales totals accumulated in the first five post-war years. Nevertheless, the market was not static. *Electrical Merchandising* estimates a total of 40,967,000 wired homes today as compared with 39,044,000 at the beginning of 1951. The increase of 1,923,000 meant more opportunities for sales of basic appliances.

Fewer Dealers. . . . Unlike previous years, the increase in wired homes was not parallelled by an increase in the number of dealers. Two hundred and five utility companies serving 30,261,110 domestic meters (74% of the total) reported to *Electrical Merchandising* that the number of dealers in their territories had declined 4% from the 1950 total of 69,862 to 67,110 at the end of 1951. However, these same companies apparently believe that there are still plenty of dealers, because only 88 of them, exactly the same number as in 1951, plan to do any active appliance merchandising.

Some of the nation's nine major

Appliance Shipments by Market Areas, 1951

	Residential & Rural Electric Customers	Shipments by Percent of U. S. Total							
	Jan. 1, 1952	% of U. S. Total	Washers (8 mos.)	Ironers (8 mos.)	Dryers (8 mos.)	Refrigerators (9 mos.)	Ranges (9 mos.)	Water Heaters (9 mos.)	Freezers (9 mos.)
New England	2,766,400	6.75%	6.45%	6.46%	4.07%	5.70%	6.99%	5.47%	4.00%
Middle Atlantic	8,444,960	20.61	22.60	23.44	19.53	23.49	15.31	15.00	13.84
East North Central	8,639,610	21.09	21.73	25.80	36.87	19.39	19.93	22.46	21.98
West North Central	3,963,350	9.67	9.21	10.58	11.09	9.46	8.63	11.59	15.92
South Atlantic	5,196,610	12.69	11.72	8.32	5.34	14.10	21.33	25.55	12.11
East South Central	2,548,440	6.21	5.24	2.26	1.96	6.17	9.53	6.96	5.82
West South Central	3,600,800	8.79	7.70	5.75	2.99	9.04	3.61	2.10	12.22
Mountain	1,354,090	3.31	3.31	4.09	2.60	3.06	4.09	3.81	5.10
Pacific	4,453,620	10.88	11.04	13.30	13.55	9.59	10.58	7.06	9.01
United States	40,967,180	100%	100%	100%	100%	100%	100%	100%	100%

Unit Sales and Retail Values of Electrical Appliances Compared, 1950 vs 1951

	1951		1950	
	Units	Retail Value	Units	Retail Value
Air conditioners, room	251,000	$91,615,000	195,000	72,150,000
Bed coverings, electric	745,000	31,668,500	685,000	27,057,500
Blenders	260,000	10,270,000	225,000	8,437,500
Broilers	312,000	7,200,000	295,000	7,360,000
Cleaners, Vacuum—				
Floor	2,700,000	231,525,000	3,529,400	280,305,000
Hand type	165,000	4,991,300	230,300	6,614,200
Clocks	7,650,000	53,167,500	8,300,000	56,025,000
Coffee makers	2,825,000	59,409,750	2,975,000	54,101,250
Dehumidifiers	55,000	7,975,000	45,000	6,300,000
Dishwashers, motor-driven	260,000	78,000,000	230,000	66,700,000
Dryers, clothes, elec. & gas	495,000	118,162,300	318,500	70,449,400
Fans, all types	2,920,000	76,730,500	3,220,000	79,420,800
Food waste disposers	335,000	45,225,000	320,000	43,200,000
Freezers, home & farm	1,050,000	378,000,000	890,000	289,250,000
Fryers, deep fat	725,000	20,662,500	500,000	12,475,000
Heaters, space, electric	975,000	14,576,200	1,115,000	15,364,700
Heating pads	1,450,000	10,077,500	1,725,000	11,988,750
Hot plates	940,000	8,695,000	1,160,000	9,454,000
Ironing Machines	280,000	42,830,000	409,200	59,463,900
Irons, all types	7,585,000	104,166,800	7,475,000	101,188,550
Lamp bulbs & tubes, total	1,988,900,000	501,500,000	2,006,880,000	466,400,000
Fluorescent	82,000,000	95,100,000	88,439,000	95,500,000
Incandescent	970,000,000	227,500,000	933,523,000	204,600,000
Photo	250,000,000	43,900,000	229,230,000	37,400,000
Miniature	398,900,000	102,000,000	467,788,000	98,500,000
Christmas tree	288,000,000	33,000,000	287,960,000	30,400,000
Mixers, food	1,600,000	68,000,000	1,700,000	67,150,000
Polishers, floor	275,000	16,362,500	240,000	13,800,000
Radios, home	6,600,000	229,350,000	8,174,600	382,653,000
Portable	1,375,000	41,937,500	1,674,700	50,994,600
Ranges	1,400,000	343,000,000	1,830,000	424,623,000
Refrigerators	4,075,000	1,120,625,000	6,200,000	1,602,266,000
Roasters	442,000	18,541,900	400,000	15,580,000
Shavers	2,200,000	53,900,000	2,150,000	50,525,000
Television	5,100,000	1,570,800,000	7,463,800	2,135,408,000
Toasters, total	3,725,000	75,763,700	4,525,000	80,142,700
Waffle irons, sand. grills	1,875,000	33,656,300	2,535,000	42,968,200
Washing machines, total	3,533,000	727,405,800	4,405,610	791,216,000
Electric standard	3,433,000	722,425,000	4,272,580	784,563,600
Gas engine	12,000	1,914,000	18,650	2,774,900
Small	88,000	3,066,800	114,380	3,877,500
Water heaters	845,000	114,075,000	990,000	131,175,000
Water systems	625,000	96,875,000	735,000	113,925,000

market areas reported hefty declines in dealer numbers. The Mountain states, for example, found 36.86% fewer dealers in 1951 than in 1950. And the Pacific states, despite their fast growing population, reported a 9.66% decline. Four regions reported increases: East North Central, 16.65%; West North Central, 25.12%; South Atlantic, 5.04%; and East South Central, 11.15%.

Regional Sales. . . . Little if any correlation exists between the decline or increase of dealers in any one market area and that area's share of national sales. The Middle Atlantic states, for example, showed a 18.88% decline in dealers during 1951, but they still absorbed 22.6% of manufacturers' shipments of washers in the first eight months, 23.44% of ironers, 19.53% of dryers, 23.49% of refrigerators, 15.31% of ranges, 15% of water heaters, and 13.84% of freezers—overall one of the best markets. Similarly, the East South Central region boasts an 11.15% increase in the number of retailers, but its share of the national market actually declined in 1951. Refrigerator shipments, for example, amounted to 8.07% of national totals in 1950 (first eight months), but in 1951 they dropped to 6.17% for a similar period. For other regions of the country their shares of the national output remained at approximately the same level through the two years.

Outlook: No Boom. . . . Just how good the appliance business will be in 1952 depends upon availability of materials, the dubious prospects for an end to the freeze on new TV stations and the opening of the UHF bands—and, of course, the tenor of the public demand. The industry does expect more and severer cutbacks in allocations of steel, copper, and aluminum, but, on the other hand, it rode into 1952 with substantial inventories that should carry it well into the second quarter and perhaps even further. Dealer reports indicate that at the moment the heaviest stocks are in refrigerators and television sets. The first quarter, of course, is traditionally the poorest of the year and it is unlikely that the pattern will change in 1952. The public has served notice that it will not be easily panicked into another Korean buying rush and the tremendous buying of 1950 will still have some adverse effect on 1952 sales. Add to these factors the widespread reluctance of retailers to do an aggressive, doorbell-ringing sales job and 1952 does not look like a record sales year, but, assuming adequate supplies, alert merchandisers will make substantial gains.

Appliance Saturation, January, 1952

Product	No. Homes With	% of Wired Homes
Air conditioners, room	337,500	.8
Bed coverings, (electric)	2,925,000	7.1
Blenders, liquefiers	1,070,000	2.6
Broilers	2,487,000	6.1
Cleaners, vacuum, floor	23,640,000	57.7
Clocks	32,292,500	78.8
Coffee makers	20,070,000	49.0
Dishwashers, electric	1,050,000	2.6
Dryers, clothes, elec. & gas	982,500	2.2
Food waste units	1,116,500	2.7
Freezers	3,800,000	9.3
Heaters, convector & radiant	9,052,000	22.1
Heating pads	12,263,000	29.9
Hotplates	8,512,000	20.8
Ironers	3,725,000	9.1
Irons	36,875,000	90.0
Irons, steam	6,310,000	15.4
Mixers	11,431,500	27.9
Oil space heaters	6,750,000	15.1
Radio receivers	44,167,000	99.1
Ranges	9,350,000	22.8
Refrigerators	35,500,000	86.7
Roasters	3,442,700	8.5
Sandwich—waffle combs	12,340,000	30.1
Shavers	12,270,000	30.0
Television	14,545,900	35.5
Toasters	28,862,000	70.5
Waffle irons	12,036,000	29.4
Washers, electric	30,100,000	73.5
Washers, gas engine	1,292,000	2.9
Water heaters	5,230,000	12.8

Radio, dryers, oil space heaters and gas engine washers based on 44,564,000 homes. All other figures based on 40,967,000 domestic and farm electric customers.

Promotion Pays Out

Sales promotion expense is an increasingly good investment for his company, according to R. C. Hienton, general sales manager of the Cleveland Electric Illuminating Co. At the 1951 conference of the International Association of Electrical Leagues, he said that in the first 6 months of 1951, EAR per dollar of residential sales cost was $5.29 as against $3.23 for the full year of 1950.

Film Fare for Selling

Available to Hotpoint dealers for showing to women's clubs and other groups is a new film, "She Stole the Show," which tells how to plan an electric kitchen and select the appliances for it. A companion film, "Miracle of the Rainbow," promoting the home laundry, completes a "double bill" program.

Idaho Power Case: Semi Finals

Transmission line fight nears climax as FPC asks Supreme Court to uphold conditions written into utility's license

Federal Power Commission has asked the Supreme Court to uphold its practice of writing conditions into licenses issued for hydroelectric developments. The case in point involves a transmission line of Idaho Power Co that passes across public lands (EW, Oct. 22, 1949, p 89; Feb. 13, 1950, p 89).

FPC filed a petition Dec. 26 for review of a U. S. Court of Appeals decision which denied it this authority and directed it to make specific changes in the license issued to Idaho Power.

The Issue . . . At issue is whether the FPC can compel Idaho Power to make available unused capacity of its 138-kv American Falls-Boise transmission line, which connects with its Bliss Plant, for use by the federal government. FPC wrote this condition in the license it issued to the company for construction and operation of the plant and transmission system.

Appeals Court for the District of Columbia found the commission had no authority to write the condition into the license, and ordered that it be eliminated.

FPC Contends . . . In asking for a high court review, FPC based its case on two main points:

1. The lower court had no authority to direct specific deletions from the license, but should have remanded the license to the commission for appropriate revision.

2. The FPC does, in fact, have the authority to write in the conditions.

Ironic . . . In this case, FPC is in the ironic position of going to bat for Interior Department—bitter FPC opponent in the Roanoke Rapids and Kings River disputes.

Interior first tried to place the disputed conditions on Idaho Power by direct means. The transmission lines cross lands over which Interior has jurisdiction. When the company requested a permit to build the lines, Interior sought to write the conditions into a permit. When the company took the case to court, Interior dropped the attempt.

Second Chance . . . But later, when FPC took the license application under consideration, Interior succeeded in getting the conditions written into the license.

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Northwest Power Body Studies Disaster Plans

The Northwest Utilities Conference Committee has recommended appointment of an overall coordinator to take over the Northwest Power Pool in the event of an enemy attack.

John Dickson, Wahkiakum County PUD manager and chairman of the conference civil defense committee, quoted the states' civil defense adviser as predicting the most likely enemy attack would be in the form of guided missiles launched from submarines simultaneously against coast defense centers. Such an attack might knock out not only individual power systems but also generating facilities as far east as Bonneville Dam.

The power men, under the chairmanship of C. A. Erdahl, Tacoma commissioner of public utilities, suggested that uniform state disaster plans relating to power control be adopted by governors of the four Pacific Northwest states and agreed that individual coordinators should be named for each of the four "target areas" into which the region has been divided.

Changes in Capacity Reported to Federal Power Commission

PLANT ADDITIONS DURING NOVEMBER

State	Utility	Plant	Fuel	Capacity (Kw)
N. Y.	Central Hudson Gas & Electric Corp	Danskammer	S	60,000
N. Y.	Consolidated Edison Co of N. Y.	East River	S	125,000
Ohio	Cleveland Electric Illuminating Co	Berea	S	4,050
Mich.	Wolverine Electric Cooperative	Hersey	IC	2,500
Wis.	Wisconsin Public Service Corp	Pulliam	S	62,500
Minn.	Luverne Municipal Utilities	Luverne	S	3,000
Iowa	Whiting Electric Light & Power Department	Whiting	IC	350
Iowa	Iowa Public Service Co	Maynard	S	20,000
Iowa	Algona Municipal Light & Water Plant	Algona	IC	2,250
S. D.	Northern States Power Co	Lawrence	S	20,000
Kan.	Central Kansas Power Co	Colby	S	7,500
Kan.	Jetmore Electric Light & Water Department	Jetmore	IC	450
Va.	Chesapeake Island Electric Cooperative	Tangier	IC	225
Fla.	Florida Power & Light Co	Mobile unit	IC	175
Fla.	Lake Worth Light & Water Department	Lake Worth	IC	5,000
Fla.	Florida Keys Electric Cooperative Association	Tavernier	IC	1,000
Tenn.	Tennessee Valley Authority	Johnsonville	S	112,500
La.	Gulf States Utilities Co	Louisiana	S	15,000
Tex.	Brownfield Light Department	Brownfield	IC	2,000
Mont.	Montana Power Co	Frank Bird	S	66,000
Wyo.	Mountain States Power Co	Buffalo	IC	800
N. M.	Farmington Electric Light Department	Farmington	IC	1,080

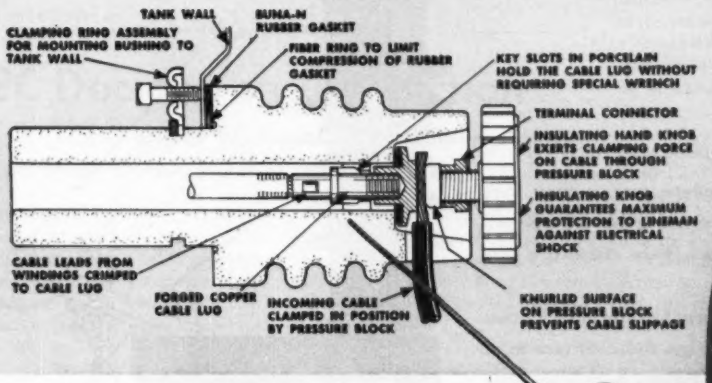
PLANT RETIREMENTS DURING NOVEMBER

Maine	Bangor Hydro Electric Co	Iron Works	H	120
Pa.	Pennsylvania Power & Light Co	Benton	H	70
Pa.	Pennsylvania Power & Light Co	Orangeville	H	75
Pa.	Pennsylvania Power & Light Co	Swengel	H	120
Pa.	Pennsylvania Power & Light Co	Swengel	IC	200
Pa.	Pennsylvania Power & Light Co	Laurelton	H	275
Pa.	Pennsylvania Power & Light Co	Carlisle St.	S	2,000
Mich.	White Cloud Electric Light & Power Department	White Cloud	H	50
Minn.	Luverne Municipal Utilities	Luverne	IC	300
Iowa	Whiting Electric Light & Power Department	Whiting	IC	120
Iowa	Spencer Municipal Utilities	Spencer	S	1,000
Iowa	Algona Municipal Light & Water Plant	Algona	IC	410
Kan.	Jetmore Electric Light & Water Department	Jetmore	IC	72
Kan.	Jetmore Electric Light & Water Department	Jetmore 2	IC	100
W. Va.	Monongahela Power Co	Sutton	S	120
W. Va.	Monongahela Power Co	Sisterville	IC	800
Fla.	Lake Worth Light & Water Department	Lake Worth	IC	2,200
Okla.	Cherokee Light & Water Department	Cherokee	IC	200
Mont.	Mountain States Power Co	Kalispell	IC	800
Ariz.	Central Arizona Light & Power Co	Snowflake	IC	125

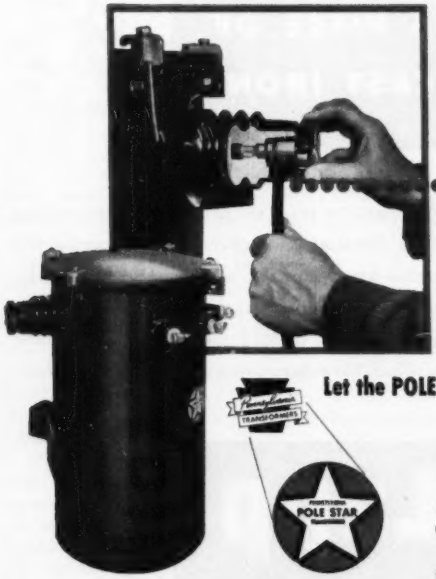
H—Hydro, IC—Internal Combustion, S—Steam
United States Capacity as of Dec. 1—Hydro, 18,738,526 kw; Internal Combustion, 1,972,-114 kw; Steam, 54,483,308 kw; Total, 75,193,948 kw.

"Our New POLE STAR HIGH VOLTAGE BUSHING has every Mechanical and Electrical Feature desired by Utility Engineers and Operating Men"

says W. A. MOCKER, *Planning Engineer,*
PENNSYLVANIA TRANSFORMER COMPANY


TANK WALL
BUNA-N RUBBER GASKET
CLAMPING RING ASSEMBLY FOR MOUNTING BUSHING TO TANK WALL
FIBER RING TO LIMIT COMPRESSION OF RUBBER GASKET
KEY SLOTS IN PORCELAIN HOLD THE CABLE LUG WITHOUT REQUIRING SPECIAL WRENCH
TERMINAL CONNECTOR
INSULATING HAND KNOB EXERTS CLAMPING FORCE ON CABLE THROUGH PRESSURE BLOCK
INSULATING KNOB GUARANTEES MAXIMUM PROTECTION TO LINEMAN AGAINST ELECTRICAL SHOCK
CABLE LEADS FROM WINDINGS CRIMPED TO CABLE LUG
FORGED COPPER CABLE LUG
INCOMING CABLE CLAMPED IN POSITION BY PRESSURE BLOCK
KNURLED SURFACE ON PRESSURE BLOCK PREVENTS CABLE SLIPPAGE

Pennsylvania Transformer Company, pioneer of the straight, sidewall high voltage bushing for distribution transformers, has re-designed its high voltage bushing and is now installing it on all Pole Star transformers requiring sidewall bushings.



ELECTRICALLY CO-ORDINATED

The Basic Impulse Level of the bushing is co-ordinated with the transformer windings. When the transformer is subjected to a voltage surge above the BIL of the bushing, the bushing will flashover on the outside. A separate, completely co-ordinated bushing is available for each voltage class—5 Kv and 8.6 Kv.

MECHANICALLY IMPROVED

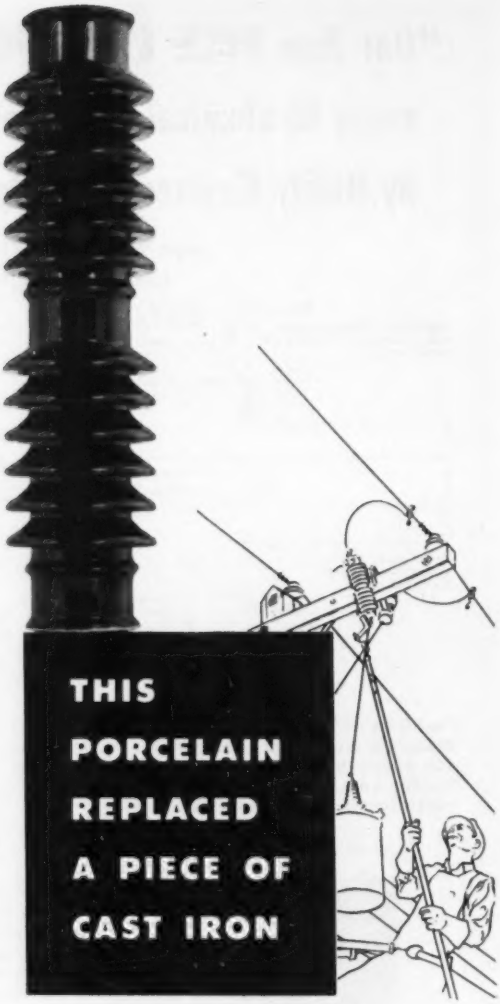
The new Pole Star bushing is extra strong and extra safe. No tools are needed to make a line connection. *You simply insert the incoming cable through the side opening and turn the handle.* This tightens the pressure block against the cable and holds the cable in a vice-like grip to make an excellent electrical and mechanical connection. The corrugated, easy-to-grip knob is constructed of a phenolic rubber compound and will not break to expose live parts, or chip to cut a lineman's glove.

Let the POLE Star be your guide

Product Of Long Experience — Safe Thrifty And Reliable

Pennsylvania TRANSFORMER COMPANY

CANONSBURG, PA. • *Greater Pittsburgh District*



THIS PORCELAIN REPLACED A PIECE OF CAST IRON

Remember when open-type fuse cutouts were made with a cast iron base carrying two pin-type distribution insulators to which were clamped a fuse switch assembly?

Because of the development by Lapp of such a part as this porcelain "post," design and construction of present-day "standard" fuse cutouts have been made simpler, less expensive and more dependable.

For here is a porcelain part designed to utilize the known strength of porcelain, to perform a mechanical as well as an electrical duty. In addition to insulating the terminals of the switch from each other and from ground, it performs the mechanical duty of a supporting member for the entire mechanism.

This is one example of many Lapp-originated or Lapp-built improvements which depend on sound use and sound construction of porcelain parts.

At Lapp exists a firm conviction that porcelain is more than a fragile insulating material which must be used timidly. We have learned, and repeatedly proved, in performance records, that it can be used in such a way as to take advantage of its known great strength and permanence to improve *mechanical and electrical* efficiency and dependability.

To manufacturers of electrical equipment utilizing porcelain insulation, we offer our engineering and production know-how. To users of high voltage insulators, we offer a product with a proved margin of operating security, of long life, of low upkeep and maintenance. Lapp Insulator Co., Inc., Le Roy, N. Y.

Lapp

YIELDS (%)—Operating Electric Utility Securities

Quality	Bonds			Preferred Stocks			Common Stocks		
	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd
DATE									
1952									
Jan. 10	2.99	3.04	3.19	4.29	4.41	4.86	5.38	5.97	6.53
Jan. 3	3.02	3.06	3.22	4.32	4.47	4.89	5.36	6.08	6.70
END OF QTR.									
4th 1951	3.02	3.07	3.21	4.32	4.50	4.91	5.42	6.18	6.84
3rd 1951	2.87	2.91	3.04	4.05	4.27	4.61	5.52	6.24	7.05
2nd 1951	3.02	3.11	3.23	4.11	3.37	4.68	5.73	6.38	7.78
1st 1951	2.87	2.93	3.00	3.96	4.19	4.52	5.47	6.20	7.13

Data: Reis & Chandler, Inc.

SEC Decides on Jurisdiction . . .

. . . over sale of Washington Water Power properties, but postpones announcement of its decision

Four members of the Securities and Exchange Commission last week decided whether they would exert jurisdiction over the proposed sale of the Washington Water Power Co.

But they held up announcement of that decision until they could get their opinion down in writing. Fifth member of the commission, Vice Chairman Donald C. Cook, took no part in the case.

With the permission of American Power & Light Co, which holds all common stock of WWP, the commission changed the deadline for the jurisdictional decision from Jan. 14 to Jan. 18. This was the second extension granted by American, which is under SEC order to dispose of WWP.

During the preceding week, the four participating commissioners heard pleas from a long parade of interested parties. There was very little doubt that the proponents of SEC jurisdiction far outnumbered their opponents.

A number of lawmakers, including the entire Idaho Congressional delegation, urged SEC to step in and examine every phase of the proposed sale (EW, Jan. 7, p 46). The Idaho Congressmen said any transfer of the WWP properties in Idaho would upset the state's vital mining and lumber industries.

SEC can exert jurisdiction only if it finds that the proposed sale is not made entirely to public bodies. Under the terms of the proposal, American claims the sale is to three Public Utility Districts in Washington, but admits plans for resale of the Idaho properties to a non-profit corporation. The resale is necessary because the PUD's are not allowed to own or operate properties outside the State of Washington.

Idaho Attorney General Robert E. Smylie has spent much time recently at SEC urging that it take jurisdiction over the sale. He contends the sale is not, in fact, entirely to public bodies. He further argues it cannot be "expeditiously consummated," as ordered by SEC.

Support for SEC jurisdiction also came from the International Brotherhood of Electrical Workers, which argued that the proposed sale does not provide enough protection for WWP employees, particularly as it relates to the pension program.

Stockholders representing more than one-fifth of American's outstanding shares also called for SEC jurisdiction.

A long letter to the commission from Senators Wayne Morse and Guy Cordon of Oregon, Harry Cain of Washington and Herman Welker of Idaho called for SEC jurisdiction over the sale.

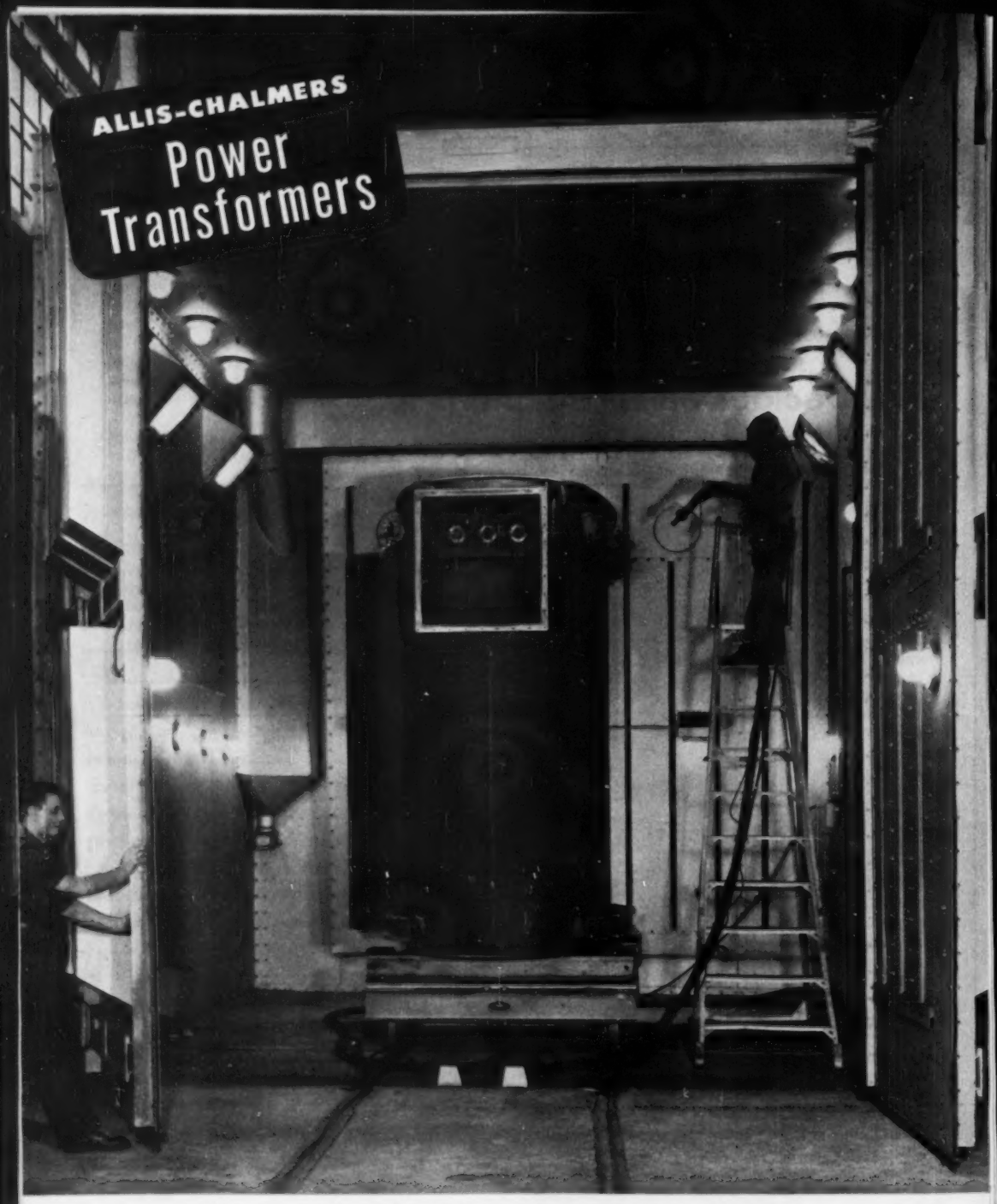
"Certainly no injury can result from action by you in letting the light of day into this confused complex situation by giving all who are interested their day in court," the letter said.

(Financial continued on page 46)

Electric Utility Financing

Company and Description	Amount of Offering ($000)	Offering Price	Yield to Public
WEEK OF JANUARY 10-16			
Preferred Stock			
Florida Power Corp—51,550 sh, 4.90% $100 par cum conv. . .	$5,155	100%	4.90%
Common Stock			
Southern Utah Power—15,671 sh (to common holders on 1-for-4 basis, record Dec. 27 to expire Jan. 11)	181	$11.50	8.70%
WEEK OF JANUARY 17-23			
Bonds			
Indiana & Michigan Electric—1st mtg 1982	$17,000	.....	.....
Indiana & Michigan Electric—serial notes 1956-1967	6,000	.....	.....
Preferred Stock			
Kansas City Power & Light—100,000 sh $100 par	10,000*	.....	.....
Central Illinois Public Service—50,000 sh $100 par	5,000*	.....	.....
Common Stock			
Pacific Power & Light—552,792 sh (200,000 sh to be sold by company and balance for selling stockholders)	**	.....	.....
Kansas City Power & Light—317,792 sh (to be offered to common holders on 1-for-6 basis, record about Jan. 22 to expire Feb. 6)	*	.....	.....
SCHEDULED FOR JANUARY-FEBRUARY			
Bonds			Bid Date
Central Illinois Public Service—1st mtg 1982	$5,000		Jan. 29
Dayton Power & Light—1st mtg 1982	15,000		†Jan. 29
Pennsylvania Power Co—1st mtg 1982	6,000		Feb. 5
Louisville Gas & Electric—1st mtg 1982	12,000		.....
Preferred Stock			
Pacific Gas & Electric—163,986 sh $25 par 5% 1st Series A (being offered Jan. 15 to employees at 24½ of which 23½ is being paid through payroll deductions, to expire Feb. 8; no underwriting)	4,099	$24.50	5.10%
Common Stock			
West Penn Electric—440,000 sh (to be offered to common holders on 1-for-8 basis, record Feb. 1 to expire Feb. 18; company will name the price with underwriters bidding for unsubscribed shares)	.....	.....	Jan. 30
Southwestern Public Service—251,540 sh (to be offered to common holders on 1-for-13 basis, record about Feb. 1)	.....	.....	.....
Dayton Power & Light—256,007 sh (to be offered to common holders on 1-for-9 basis, record Jan. 28 to expire Feb. 15)	.....	.....	.....

* Blyth & Co-First Boston Corp group, underwriters.
** Lehman Bros. group, underwriters.
† Morgan Stanley & Co—W. E. Hutton Co, underwriters.



CORROSION RESISTANT FINISH. Tanks are shot blasted in this booth to prepare their surfaces for painting. Three coats of paint provide a tough, corrosion-resistant finish. Radiators have a high quality protective coating that is the result of dip-Bonderizing and rotary flow painting.

ALLIS-CHALMERS

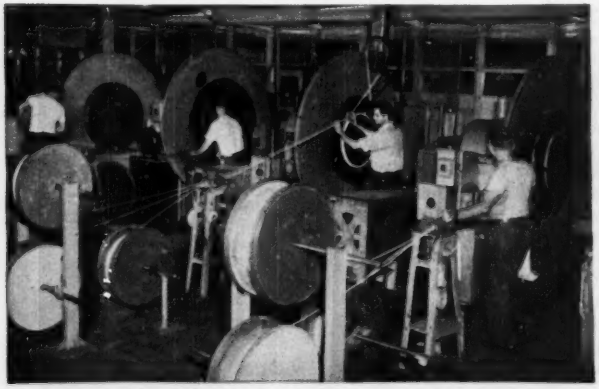
OREGON UTILITY Boosts Capacity

ADDS THREE 6,000 KVA ALLIS-CHALMERS POWER TRANSFORMERS

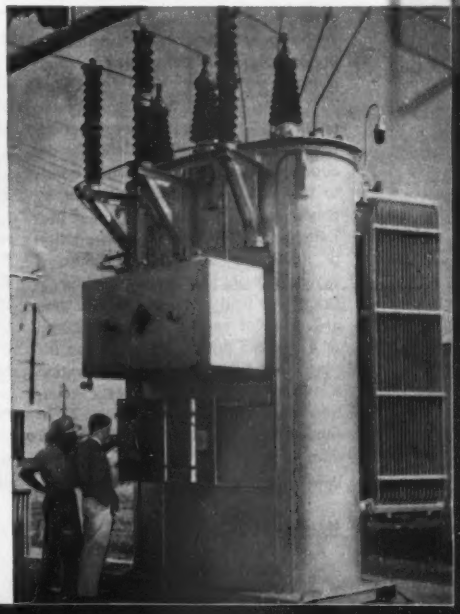
OREGON RESIDENTS use three times more power than the national average. Records show that 99% of the farms and suburban homes in the area served by the Portland General Electric Company are electrified. And Allis-Chalmers power, distribution and network transformers help PGE — the state's largest electric utility — distribute the power. These 6,000 kva transformers step up capacity for Salem, the capital city of Oregon.

Repeat orders from PGE — and from utilities across the country — are evidence that Allis-Chalmers power transformers are providing dependable, on-the-job service day in and day out. For more details call in your A-C sales representative, or write Allis-Chalmers, Milwaukee 1, Wisconsin. Offices in 64 principal cities. A-3542

GOOD WORKMANSHIP. Winding and core structure are securely supported and braced. Machine wound tubes, anchored in a sturdy clamping, support and insulate the leads. Good workmanship characterizes assembly work in all stages of transformer assembly.



WINDINGS ARE UNIFORMLY TIGHT. A battery of winding machines winds coils simultaneously from a continuous conductor. This method maintains uniform tightness throughout the winding process and eliminates internal connections. Spacers, uniformly spaced and cemented between coils, give good support and promote coolant circulation.



MORE POWER. This 6,000 kva transformer is one of three Allis-Chalmers power transformers installed at Portland General Electric Company's Middlegrove substation to boost power capacity.

Electric Utility Earnings

Company	Period Months	Ended	Net Income 1951	Net Income 1950	Earnings per Common Share 1951	Earnings per Common Share 1950
Central Ohio L&P	12	Nov.	$508,851	$578,866	$3.07	$3.31
Montana Power	12	Nov.	6,922,634	7,585,371	2.40	2.67
New Orleans PS	12	Nov.	3,443,368	3,470,380	2.76	2.79
Pennsylvania P&L	12	Nov.	11,991,939	12,122,295	2.15a	2.84a
Puget Sound P&L b	12	Nov.	3,470,526	4,430,492	....	....
Scranton Electric	12	Nov.	1,622,246	1,749,098	1.11a	1.29a

a—On shares outstanding at end of each period; b—Sold its electric properties, approximating about 25% of its total electric property in the Seattle competitive area to City of Seattle for $26.8 million. About 40% of its revenues were involved in the sale.

Puget Sound to Get Formal Bid

Best way to preserve local autonomy, lower rates, and good service is to keep Puget's system intact, McLaughlin says

Seven Washington State PUD's have decided to make a formal bid to purchase the Puget Sound Power & Light Co despite disapproval by the Western Investment Banking Voluntary Credit Restraint Committee of the necessary $115-million bond issue.

Both Harvey Benson, chairman of the PUD committee negotiating the purchase, and Frank McLaughlin, company president, recommended completion of the purchase proposal, after which the Credit Restraint Committee again will be asked to approve the bond issue.

Policy Followed . . . The Credit Restraint Committee followed the policy of the National Credit Restraint Committee which earlier had ruled that purchases of privately owned utilities by public agencies which involve borrowing to replace equity capital should be postponed for the duration of the present period of emergency as inflationary.

"On the basis of the reason for the committee's action in the present instance, it follows that it would also decline approval of the issuance of bonds to finance any acquisition sought by condemnation proceedings," said McLaughlin. "Piecemeal condemnation is inflationary dynamite because it induces chaos and invites disaster in the power field in Puget's service area at a time of national emergency and of a regional power shortage. On the other hand, an over-all acquisition would strengthen the domestic economy and while it is construed inflationary on the basis of formula definition, it is not felt this can be supported by proven facts in Puget's case.

Keep Puget's System Intact . . . "The committee's action has no effect on the basic fact that in any transition from private to public power, the best way to preserve local autonomy, lower rates, and good electric service is, to the maximum extent possible, to keep Puget's integrated system intact as an operating unit. Consequently, there is no reason for the PUD's to alter their time-table. Their first step is still to present the company with an over-all purchase proposal. By the time this is done, through changed circumstances or other developments, it is conceivable that the financing of an over-all acquisition could be worked out which would not be construed as inflationary."

WALL STREET

Electric utility common stocks continued their upward move for the week ended Jan. 12 with Dow-Jones averages again hitting a record at 48.94, highest since Sept. 15, 1931. The following common stocks went to a new high for the 1951-1952 period: American Gas & Electric Co, Cleveland Electric Illuminating Co, Commonwealth Edison Co, Consumers Power Co, Dayton Power & Light Co, Empire District Electric Co, Florida Power & Light Co, General Public Utilities Corp, Iowa Power & Light Co, Minnesota Power & Light Co, Northern States Power Co, Ohio Edison Co, Pacific Gas & Electric Co, Public Service Electric Gas Co, Rochester Gas & Electric Corp, Southern Co, Southern Indiana Gas & Electric Co, and West Penn Electric.

FINANCIAL BRIEFS

Long Island Lighting will pay Feb. 1 to stockholders of record Jan. 18 a quarterly dividend of 22½¢ per share. Previous quarters paid 20¢.

Pennsylvania Electric Co plans to sell competitively 45,000 shares of preferred stock during the summer . . . **Washington Water Power** has received Idaho Public Utilities Commission approval to borrow $40 million.

Hartford Electric Light Co has reported that, based on actual earnings for 11 months and estimated earnings for December, it appears that 25% of dividends paid in 1951 on common stock will be non-taxable for federal income tax purposes as capital distributions. Computation is tentative and subject to review by the Treasury.

REGULATIONS

Rochester Gas & Electric Corp has asked the New York Public Service Commission for an electric rate hike of 6.71%, or $1.5 million annually.

Savannah Electric & Power Co has applied to Georgia Public Service Commission for rate increases as follows: Residential service, 25¢ to 67¢ per month per customer; commercial, 25¢ to $1.67 per customer; water-heating rates from no minimum increase to 20¢ maximum increase, and industrial 5% discount instead of present 10% discount.

CHARLES H. HELTZEL has been appointed Public Utilities Commissioner of Oregon, succeeding George H. Flagg, who resigned

1 TUBES QUICKLY REMOVED. Just a quick push-pull releases Sylvania Fluorescent tubes. After replacement, the spring tension of turret lampholders keeps them secure against vibration.

2 REFLECTORS OFF IN SECONDS. No tools needed to remove reflectors. See those captive latches! Simply turn them a quarter turn and the reflector is in your hands. Slips back in place instantly.

UNBEATABLE FORMULA FOR

BEST LIGHTING BUSINESS...

Sylvania High Quality plus Sylvania Low Maintenance

Sylvania's formula of highest quality lighting fixtures and performance PLUS lowest possible maintenance, holds profitable results for Utility Companies. That's because when a Sylvania installation goes in, it *stays* in . . . continues as a reliable and consistent load builder.

Engineered for low maintenance

In every detail, Sylvania fixtures are engineered for trouble-free performance and quick, easy maintenance.

Reflectors, for example, are released by just a quarter turn of two sturdy spring latches . . . no nuts, bolts or screws. Reflector edges are turned *down* to prevent the accumulation of dirt, lint or moisture.

Fixtures are offered in two finishes; porcelain, which resists corrosion and rust, and Sylvania's exclusive "Miracoat" finish, which assures maximum reflectivity . . . both clean at a whisk of a cloth. Add to this the extra long life of Sylvania fluorescent tubes, which keeps down re-tubing costs, and you'll see why Electrical Contractors can guarantee every customer 100% satisfaction with Sylvania fixtures.

Remember—every Sylvania Fixture, including lamps and parts, is guaranteed for one year.

The coupon brings you illustrated folder and full information about the complete line of Sylvania Industrial Fluorescent Fixtures. For your copy, mail the coupon NOW!

QUALIFIED LIGHTING CONTRACTOR SYLVANIA

Urge your Electrical Contractor friends to join the Qualified Lighting Contractor program and display this emblem. Backed by national advertising and big direct mail campaigns, it directs business to their doors.

Sylvania Electric Products Inc.
Dept. L-3101, 1740 Broadway, N. Y. 19, N. Y.

Please send me new folder describing the full line of Sylvania Industrial Fixtures.

Name_____

Company_____

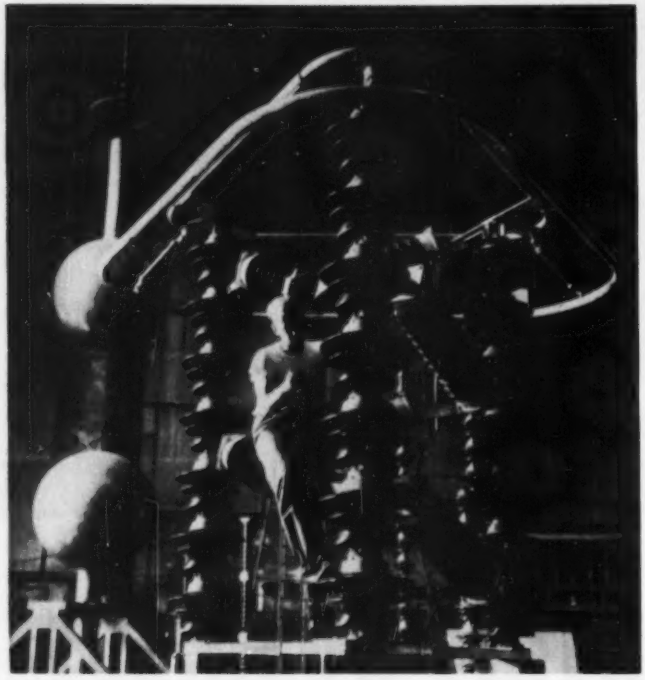
Street_____

City_____ Zone___ State_____

MAIL THIS COUPON TODAY!

SYLVANIA

FLUORESCENT TUBES, SIGN TUBING, FIXTURES, WIRING DEVICES; LIGHT BULBS; RADIO TUBES; TELEVISION PICTURE TUBES; ELECTRONIC PRODUCTS; ELECTRONIC TEST EQUIPMENT; PHOTOLAMPS; TELEVISION SETS



1952 Model Lightning Arrester

A three-legged, 195-kv lightning arrester is being readied for tests in Westinghouse Electric Corp's laboratory at Trafford, Pa. Formerly, big lightning arresters like this required heavy porcelain-encased elements towering 20 ft or more into the air and needed steel supports which added significantly to space requirements and cost. Because of the unique spiral design of the arrester elements of this model, the power guardian is short, sturdy, self-supporting. It can be mounted on wheels for greater utility. Lightning arresters protect vital electrical equipment in power stations and along transmission lines from damage by lightning.

Nevada to Sell Assets of Its Magnesium Plant

Basic Management, Inc, a newly formed company, is planning to purchase the "residual assets" of the Basic Magnesium plant at Henderson from the State of Nevada for about $5 million. Negotiations on the long-debated purchase are expected to be completed by March 1.

The assets include housing and land at the Henderson town site, facilities for distribution of power and water from Hoover Dam and for disposal of sanitary and industrial wastes, the plant railroad, and the street system. The purchase price will be based on an audit of obligations of the Nevada Colorado River Commission to the federal government.

Sale of the non-manufacturing facilities will add valuable property to Nevada tax rolls and take the state out of the housing and utility business, which it entered when it bought the war-born facility from the federal government after World War II.

Western Electrochemical Co, Titanium Metals, Inc, and Combined Metals, Inc, who have been leasing Basic Magnesium facilities, have combined to form Basic Management. Hercules Powder Co, which recently purchased 11 acres for a $3-million insecticide plant, is expected to join by the time its plant is operating late this year. Stauffer Chemical Co, the first company to lease a portion of the plant, is "actively considering" joining the combination.

•

R&IE Becomes Division of I-T-E Circuit Breaker

All the assets and business of Railway & Industrial Engineering Co, Greensburg, Pa., subject to all its obligations and liabilities, have been acquired by its parent company, I-T-E Circuit Breaker Co, Philadelphia, Pa.

The former wholly owned subsidiary will now be known as the R&IE Equipment Division of I-T-E Circuit Breaker Co and will continue all of its present operations at its Greensburg location. The change will not affect the fulfillment of the contractual obligations made by Railway with its customers, suppliers, or employees.

K. S. Nevin, vice president, treasurer, and general manager of Railway, has been elected a vice president of I-T-E Circuit Breaker and manager of the R&IE division. W. M. McCauley, vice president of Railway, and G. L. Carlisle, commercial vice president of Railway, have been elected vice president and commercial vice president, respectively, of I-T-E Circuit Breaker.

•

Push-Button Telegraphic Center Installed by GE

General Electric Co has placed in operation a new "push-button" telegraphic switching center at Atlanta, Ga., linking 14 key southern cities with the nation's largest industrial leased wire system.

The addition of this new center to the 60,000-mile GE-leased system brings to a total of nine the number of telegraphic switching centers that the company has installed throughout the United States.

According to E. I. Hibbard, supervisor of GE communications at Schenectady, N. Y., the new center's "push-button" system will cut message rerouting time in half and enable the company to fill customer orders with greater speed and efficiency. He added that the system network permits all points in the company to function as though under one roof.

Thirty-two stations within the 14-city area will be serviced by the new switching center. Five are in Atlanta, four in Houston, three in Charlotte, and two each in Tampa, Miami, Jacksonville, Chattanooga, Knoxville, Memphis, Dallas, Nashville, and New Orleans. Birmingham and Beaumont will have one each.

A total of 250 stations, serving 110 cities in 35 states, are now on the network which GE leases from Western Union.

MANUFACTURING BRIEFS

National Electric Products Corp, Pittsburgh, Pa., has announced that its Philadelphia warehouse will be closed this month. The plant's operations will be transferred to the corporation's new million-dollar manufacturing plant recently acquired in Linden, N. J. The corporation will still retain its original plant and manufacturing facilities at Ambridge, Pa., adjacent to the Pittsburgh manufacturing area, as well as its large plant in Torrance, Calif., which serves the West Coast area.

SALES ASSIGNMENTS

COMPANY STAFFS

Leeds & Northrup Co, Philadelphia, Pa., has opened a sales and service office at 3084 Grandview Avenue, Atlanta, Ga. William A. Macan, III, is manager of the new office. His staff includes D. J. McKiever and Raymond Kiehl. The territory of the office includes South Carolina, Georgia, Florida, Alabama, Mississippi, and Tennessee.

General Electric Co's Construction Materials Division has assigned C. S. Jones and J. R. Conley as its representatives in the north central district. Jones, who will be responsible for wiring device and accessory equipment products, will have offices at 5726 W. 51st Street, Chicago. Conley, wire and cable specialist, will be located at 2431 Hennepin Avenue, Minneapolis.

Allis-Chalmers Manufacturing Co, Milwaukee, Wis., has assigned Hugh C. Blair, John O. Higgins, and Richard D. Miller as its representatives in the south central area. Blair has been assigned to A-C's New Orleans office, Higgins to the Houston office, and Miller to the Birmingham office.

Metal Prices
Jan. 14, 1952

COPPER, Conn., V., lb	$ .24½
LEAD, N. Y., lb	.19
ZINC, prime Western, E. St. Louis, lb	.19½
TIN, Straits, qual. N. Y., lb	1.03
ALUMINUM, ingot, base price	.19
NICKEL, base price	.56½
STEEL, billets, Pitts., ton	56.00
STEEL, scrap, No. 1 heavy, Pitts., ton	45.00

NEW ELECTRICAL CONSTRUCTION

A weekly selection of U. S. electrical construction projects announced by private and government utility systems involving more than $70,000. Also listed are major industrial and construction jobs where electrical work is indicated or implied

UTILITIES

Proposed Construction

Calif., Palo Alto—Verlan Assocs., c/o Eric Mendelsohn & Michael A. Gallis, archts., 627 Commercial St., San Francisco, electronic plant, $1,000,000. Isadore Thompson, 583 Market St., San Francisco, structural engr.

Colorado — Bureau Reclamation, Bldg. 53, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or Loveland, Colo., control board, panels, equipment relays, transmitter-receiver sets, associated equipment, telemetering board, for Pole Hill Power Plant, Flatiron Power and Pumping Plant, Estes Power Plant, Colorado Big Thompson Proj., Spec. DS 3612. L. N. McClellan, ch. engr.

Ia., Esterville—Gray Products Co., P. G. Gray, pres., Esterville, refrigeration plant, $100,000.

Minn., Hutchinson—City, Hutchinson Light & Power Comn., R. W. Dahl, secy., 60x66 ft. municipal power plant addn., etc. $90,000. Plans deposit $25. Buell & Winter, 510 Insurance Exchange Bldg., Sioux City, Ia., engrs.

Montana—Bureau Reclamation, Dpt. Interior, Billings, 4 main control boards, four battery chargers for Midland, Philip, Wall and Wicksville substations, Transmission Div., Missouri River Basin Proj., Spec. 600S-85, L. N. McClellan, Bldg. 1A, Denver Federal Center, Denver, Colo., ch. engr.

Montana—Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver, Colo., three switchgear assemblies, one 500 kva, three 25 kva transformers and three 113-ampere resistors for Canyon Ferry Power Plant, Missouri River Basin Proj. Spec. DS 3616, L. N. McClellan, c/o owner, ch. engr.

Nebraska — Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., one 30,000-kva synchronous condenser with control equipment for Gering sub-station, Missuori River Basin Proj., Spec. DS-3617.

Nebraska—Loup Valley Rural Electric Membership Assn., Ord, 372 mi. rural distr. lines, Sherman, Valley, Greeley, Wheeler and Garfield Counties. $4,450,000. Raymond H. Reed & Co., Columbus, consult. engrs.

Neb., Sidney—City, electric sys. $470,000. Fulton & Cramer, 922 Trust Bldg., Lincoln, consult. engrs.

N. Y., New York—Consolidated Edison Co. 4 Irving Pl., New York, Zone 3, electricity distributing sub-station, 74-92 Avenue A, $274,000. Theron R. Galloway, c/o owner, engr.

North Carolina—French Broad Electric Membership Corp., Marshall, hydro-electric dam on Crane River, Yancey Co. $5,000,000.

North Dakota—Mountrail Electric Co-operative, Stanley, rural distr. lines and various sys. imprvs., Mountain Co. $110,000. Ulteig Eng. Corp., 1114½ Front St., Fargo, consult. engrs.

Oklahoma—Canadian Valley Electric Co-operative, Seminole, 249 mi. rural distr. lines and sys. imprvs., Hughes Co. $730,000.

Oklahoma — Northeast Oklahoma Electric Co-operative Assn., Vinita, 19 mi. 69 kv H-frame rural distr. line from Pensacola to Jay, Craig Co. $60,000. W. R. Holway, 302 E. 18 St., Tulsa, engr.

South Dakota—U. S. Eng., 1709 Jackson St., Omaha, Neb., outdoor switchgear regulators, transformers and motor generators and inverters for station service, Fort Randall Dam and Reservoir Proj. near Lake Andes, Inv. 52-64. CD 10/1, under LB.

South Dakota—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo. power transformers for Armour, Beresford, Brookings, Flandreau, Gorton, Summit and Tyndall Sub-station, Missouri River Basin Proj., Spec. 600S-83. Extended date.

Ont., Ottawa—Ottawa Hydro-Electric Comn., 56 Sparks St., sub-station, Beechwood Ave. $182,000; central sub-station at site, Approx. $300,000.

Que., Hull—Secy. Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., concrete frame power house, National Printing Bureau Approx. $300,000. Plans deposit $100. G. Brault, c/o owner archt.

Low Bidders & Contracts Awarded

Colorado—Union Power Constr. Co., 2431 S. University St., Denver, Colo., LB $108,211, constr. 10 mi. inter-city electric power exchange line from Colorado Springs to Pueblo. Cities of Colorado Springs and Pueblo, Colo. Bids Dec. 7.

Ill., Joppa—Bituminous Fuel & Oil Co., 1112 St. Clair Ave., East St. Louis, Ill., CA $287,890, grading, surfacing 5 mi. road leading to new electric power plant, near here. U. S. Govt., c/o Electric Energy, Inc., J. W. McAfee, St. Louis 1, Mo.

Colo., Colorado Springs—J. F. Pritchard & Co., 908 Grand Ave., Kansas City Mo., CA, $156,100, two 16,500 gpm induced draft cooling towers, at electric plant. City, City Hall, Colorado Springs, Colo. Bids Nov. 30, awarded Dec. 6.

Minn., Hibbing—Power Service Corp., 711 Wesley Temple Bldg., Minneapolis, Minn. LB $150,560, furnish auxiliary power plant equip., install part of it. Village, Pub. Utilities Comn., E. A. Anderson, secy., Hibbing, Minn. Pfeifer & Shultz, 702 Wesley Temple Bldg., Minneapolis, Minn., engrs. Bids Dec 19.

Missouri—Three Rivers Electric Co-operative, Linn, Mo. Own Forces. $535,000. 81 mi. rural distr. lines, 29 mi. new tie lines, headquarters facilities, Osage Co.

R. I., Providence—United Engineers & Constructors, 1401 Arch St., Phila., Pa., CA. $30,000,000 (2-yr. program) design and construct electric generating plant expansion, South St. Narragansett Electric Co., 49 Westminster St., Providence, R. I.

Tenn., Spring City—Tennessee Valley Authority, New Sprankle Bldg., Knoxville, Tenn. Owner Builds. $1,315,335, electric sub-station.

Texas—West Texas Utilities Co., Abilene, Tex., Force Account. $125,000. addnl. units rural pole electric power lines, Taylor Co.

Wash., Tacoma—Electric Constr. Co., 1650 Tacoma St., Tacoma, Wash., LB $65,800, est. $80,960, exten. electrical distr. facilities, McChord Air Force Base, Inv. 52-109, U. S. Eng., 4735 E. Marginal Way, Seattle 4, Wash. Bids Dec. 6.

INDUSTRIAL, COMMERCIAL & PUBLIC BUILDINGS

Proposed Construction

Calif., San Francisco—Veterans Admin., Munitions Bldg., Wash., D. C., 1,000 bed neuro-psychiatric hospital, at Fort Funston in San Francisco. $21,000,000.

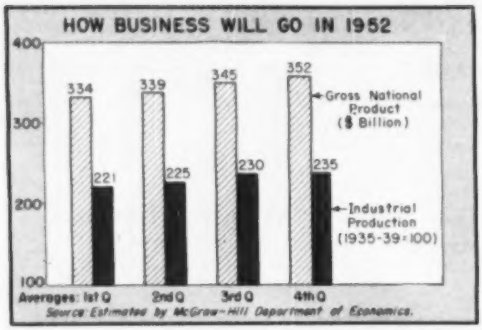
Ga., Augusta—Georgia State Bd. Health, State Office Bldg., Atlanta, plans by Greeson & Ellis, Mortgage Guarantee Bldg., Atlanta, State General Hospital. $13,999,000.

La., New Orleans—American Cyanamid Co., 30 Rockefeller Plaza, New York, N. Y., plant to recover nitrogen in Avondale. $47,750,000.

N. C., Spray—Union Carbide & Carbon Co., 30 E. 42 St., New York, N. Y., plant, $33,000,000.

Tex., LaPorte—E. I. duPont de Nemours & Co., LaPorte, fungicides mfg. unit. $3,500,000.

ELECTRICAL BUSINESS OUTLOOK



Another Good Year

Defense spending should continue pushing business upward in '52 but at a slow rate

Economists from Washington to Wall Street agree that business activity is going up this year. So the old question, "How high is up?" becomes the real question for 1952. Estimates on military spending vary as much as $20 billion. And the figures tossed around for gross national product or the index of industrial production vary just as widely. But there seems to be no doubt that both will increase.

Here are Electrical World's bets on the key business indicators:

Gross National Product: Up 4 or 5% by year end.
Industrial Production: Up 7 or 8%.
Military Spending: Up $15 billion—not $20 or $25 billion as many people think—about $60 billion per year at the end of '52.
Industrial Prices: Up 3 or 4%.

You can see at a glance—at these figures on the chart above—that the "up" we're talking about is pretty gradual. Why? Because most of the upward push comes from the defense program. And it's too bottlenecked by production problems, too restrained by military fears of overproduction, to go much faster than indicated.

It's pretty clear already that the defense boom is in the process of being cut down to size. Deliveries of many military items are lagging as much as six months. And seeing this, business men have adopted cautious inventory policies. They're likely to stay cautious as 1952 goes on. That rules out another inflationary whoosh.

A boom year for basic industry . . . All the same, 1952 is going to be a boom year for basic industrial activity and power demand. There won't be any "inventory recession" to slow things up. Production all along the line is scheduled to rise steadily. So the increase in physical volume of business will probably top 1951—although the price gyrations won't.

Even though the military program goes more slowly than expected, you can't have a rise of even $15 billion in defense spending without a sizable increase in durable goods output. There'll also be higher production of steel, chemicals, paper, and other basic materials. And the depressed lines of 1951—textiles and electric appliances—are likely to stage a strong comeback. Much buying in both fields has been delayed.

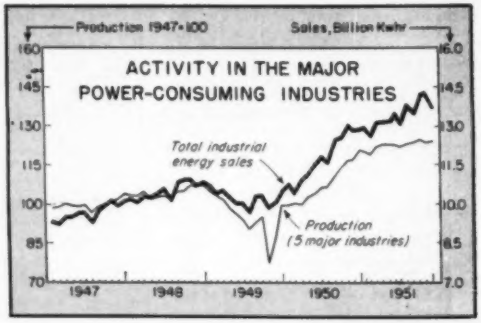
Machinery industries are operating close to capacity now and will probably do so all year long. About the only soft spots likely to show up in business are in residential construction lines and among small metalworking companies who cannot get materials.

Wages will boost costs . . . The main pressure under costs in 1952 will come from wages rising in one industry after another, following the lead in steel. This will cut into profits for manufacturing companies. But utilities, for whom labor costs are less important, should do better. Materials and construction costs probably won't go up as fast in '51.

On the other hand, power sales should rise sharply as industrial activity accelerates—beginning in the second quarter. Right now, heavy inventories are holding back output in paper and some chemical industries. Steel production is hurt by ore and scrap shortages. But all these big power users—plus new aluminum and atomic energy facilities—will be shooting for new records later this year.

Large light and power sales increased 12.5% in 1951 over 1950. This gain, though considerable, was somewhat lower than expected because of delays in plant completions. The prospective increase in industrial production of 7 or 8% this year should produce approximately the same growth in industrial use of energy. This would mean a new record for consumption of industrial power.

Residential sales won't rise as fast. Fewer new homes are being completed this year. And fewer new appliances will be sold. New commercial construction is also being restricted. These factors will temper—but not stop—the upswing in power demand.



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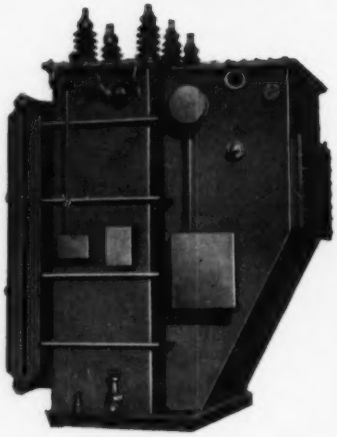
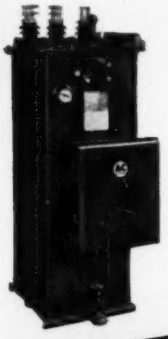
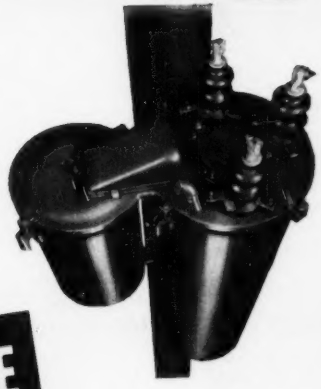


AFR
Three phase regulator, sizes through 69 kv, 2500 kva.

DFR
Single phase regulator, sizes through 6900 v, 250 kva.





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